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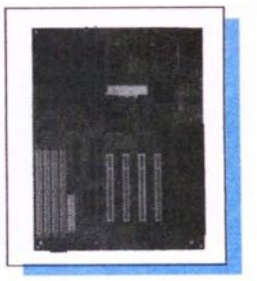

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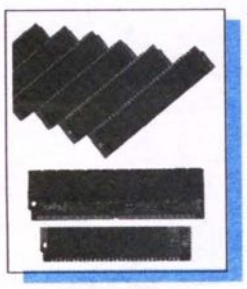

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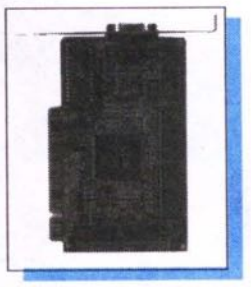

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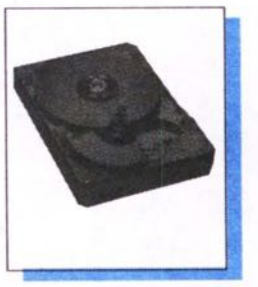

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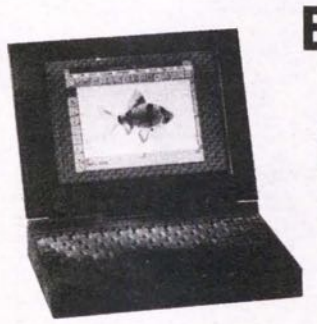

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Fees Set for Net Domain Names

Domain names on the Internet will no longer be free.

For years, companies have been able to register, free of charge, the domain portion used in their electronic-mail addresses. That is the part of the email address that follows the "@" symbol, as in 70007.411@compuserve.com.

However, starting Sept. 14, Network Solutions Inc., the company hired to register domain names, will impose an annual fee.

Writing in The Wall Street Journal, reporter Jared Sandberg quotes officials with Network Solutions as saying the Herndon, Virginia, firm will begin charging a fee of $50 a year, needed, they say, because of the rising cost of handling some 14,000 registrations each month. The Journal says those costs will pass $6 million this year, while the company collects only $5.9 million over five years in its contract with the government.

David Graves, Internet business manager at Network Solutions, told the paper, "The dramatic growth of the Internet and the costs of doing domain name registration services are exceeding the budget."

The Journal notes domain registrations have soared "as companies, eager to hold on to their trademarks in cyberspace, have rushed to register multiple names as a defensive maneuver."

Until now, Network Solutions has registered requests on a first-come, first-served basis, "letting individuals grab up corporate names and try to resell them to the actual companies," the paper notes. "The new fee could curb the practice."

While many see this as a rational decision — "If domains are free, then everybody's just going to go and grab them," says Mike Walsh, president of Internet Info, a Falls Church, Virginia, market research firm — others are unhappy. "Where was the public discussion about this?" asks Karl Denninger, president of Internet access company Macro Computer Solutions Inc. "Where was the open bidding process?"

The Journal notes that under the new arrangement, companies registering new domain names will pay $100 per name for the first two years. Each year after that, they will have to pay $50 per year. Companies that have already registered addresses will have to pay $50 starting on the first-year anniversary of their registration.

Officials with the National Science Foundation, which hired Network Solutions to manage the domain names, told Associated Press writer Evan Ramstad the charge will not apply to individuals. So a person with the electronic address of 70007.411@compuserve .com is not charged a fee, but CompuServe, represented by the compuserve.com domain name, will pay one $50 fee to cover the connection to the Internet it supplies to millions of CompuServe user IDs (including 70007,411).

AP says the NSF will continue to pay the registration fees of government and military agencies, schools and universities.

The NSF hired Network Solutions in 1993 to be the official registrar of the Internet. Since that time, the NSF has paid a fee to Network Solutions each time a new enterprise has connected to the data network.

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High-Tech Boosts Office Violence?

A business consultant is warning that technological advances may result in increased workplace violence and in more suicides.

President David Bowman of TTG Consultants says, "Technological progress is making life better for most of us and hell for more and more of us... Widespread office violence and suicides are apt to be a most newsworthy product of the technological revolution."

In a statement from Century City, California, Bowman commented, "Killings in post offices, at airports, in factories and government offices already are becoming commonplace. As technological progress often makes employees unnecessary, many people are cut adrift, and they lose their bearings. Many kill or wound their former bosses or associates or themselves. This is accelerating into an epidemic of deadly worthlessness."

Bowman cited figures from the Center For Disease Control that show homicide is the third leading cause of occupational death in the U.S. and that the National Safe Workplace Institution places the annual cost of violence to employers at $4.2 billion.

Libraries Embrace Info Highway

The American Library Association has released a survey showing that an increasing number of people can connect to the Internet at their local public libraries.

According to the study, 23 percent of libraries serving populations of 100,000 or more provide direct public access to the Internet. Another five percent provide public access with staff assistance.

"Libraries are the public's on-ramp to the information superhighway," says Betty Turock, president of the 57,000 member American Library Association.

Of 369 public libraries serving populations of 100,000 more, the survey found:

- More than 90 percent have CD-ROMs for public use.
- Nearly 90 percent have an online public catalog (OPAC) and 70 percent provide access from homes and businesses via modem.
- Seventy percent provide commercial database searches with staff assistance.
- More than half provide desktop computers and software for public use.
- More than 70 percent have special telephone devices for the deaf (TDD).
- Nearly 60 percent will fax information to a home or business on request.

Web Sites Top 100,000

Internet's monstrously popular World Wide Web has just passed the 100,000 mark in the number of Web sites and observers think it will reach nearly a half million by year's end if the current exponential growth rate continues.

Matt Jensen of Seattle's Internet Solutions Inc. — which keeps an up-to-the-second Internet statistics estimator running on its Web site (reached at Web address http://www.internetsol.com) — said in a statement, "The Web appears to still be doubling about every two to three months, as it has for the last year."

The Internet Solutions statement says the 100,000 figure is an estimate projected from surveys from several sources and, says Jensen, if the current rate of growth continues, there will be about a million sites in nine months, and about 17 billion by the year 2000.

Detailed stats are stored at Web address http://www.internetsol.com/netbin/internetstats.

More Cracking of 'Hackers' Page

MGM/UA's World Wide Web site intended to promote the studio's new movie "Hackers" continues to be a digital vandalism target itself. Lately, intruders have added links to stolen credit card listings, drug use and homemade bomb-making information.

Invaders have changed text and altered images at the Internet site (at Web address http://mgmua.com/hackers) to ridicule the movie, MGM/UA Vice President John Hegeman told CMP Publishing's Electronic Engineering Times.

Initially, it was reported vandals merely had scribbled mustaches on the electronic graphics, given them wild neon hair and replaced mug shots of some actors with a snapshot of friends drinking beer.

However, the magazine says, intruders now also have added information that directs users to other sites containing the illegal information.

Larry Lange, associate editor of the magazine, writes in his story, "A seemingly innocuous Worldwide Web site on the Internet has thrown open the door to the arcane and shadowy world of computer hackers."

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United Press International quotes Hegeman as saying there is some correlation between what the vandals have done and the actual material in the upcoming movie "Hackers."

MGM/UA officials say the site is only for entertainment purposes, set up to provide information to the public about upcoming movies. UPI notes the page began as a teaser with a disclaimer that read, "We're not experts in hacking — We're not saying we are. We asked people to open some dialogue — what are your favorite hacks or what are some hacks you've done in the past, using this just as background information to make our site a little more entertaining and interesting."

Lange says federal authorities are aware of the problem, quoting an FBI source as saying the site already has been submitted to the Bureau's National Computer Crime Squad for possible investigation.

Said Godwin, "Most of the people who even look this stuff up, just look it up because they think there's a thrill in knowing how to do it. And an even smaller percentage of them do it."

The NFL Is on The Net

As the National Football League kicks off its new season this weekend, it also is launching its new "Team NFL" home page on the Internet's World Wide Web, joining an estimated 3,500 other sports- related site there, from air hockey to Zimbabwean cricket.

Writing in The Wall Street Journal this morning, reporter John Helyar says the site (located at Web address http://nflhome.com) offers fans "oodles" of online chatter, game-day updates and much more. "How much?" he asks. "Well, this being world-wide, try the NFL rules in Spanish, German and Dutch."

Gene DeRose, who heads the New York online research and consulting firm Jupiter Communications, told the Journal the Net "is a medium that's even more conducive to sports than television," adding, "In terms of statistics, up-to-the-minute scores, and ability to focus in on specific players and teams, it's just made for the very focused attention of fans."

NFL Enterprises President Ron Bernard commented the Web site is made only for a particular kind of fan, of course, one who's "younger, more highly educated, technologically oriented." Bernard, chief of pro football's new media ventures, says he knows that's the very sort of demographic profile that sports leagues and their sponsors want to increase.

Firms Work to 'Label' Net Data

Working to head off criticism in Congress and elsewhere, 22 software, online service companies and publishers are cooperating to develop a technical standard for labeling information that is distributed on computer networks.

The group — which includes AT&T, IBM, Microsoft Corp., Netscape and the World Wide Web consortium at the Massachusetts Institute of Technology — is responded to complaints that digital networks allow minors easier to access pornography and other illicit information than books, records and videos.

(Continued on page 10)

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(Continued from page 7)

Business writer Evan Ramstad of The Associated Press reports a consensus among the planners "for a method that will allow the creators of electronic information to rate their products individually or allow independent rating like the way movies are rated."

AP adds, "Their effort resembles many others in which technology companies jointly hammer out a technical standard. For instance, the Internet is based on a standard for moving data around known as TCP/IP. This new effort — which will get the techie acronym PICS — is likely to be watched closely because of conflicting views about controlling content on online services and the Internet, the global public data network."

The effort comes as a House-Senate conference committee begins this fall ironing out disparate ideas over computer network content in the telecommunications reform bill. (The Senate version forbids obscenity, pornography and other illicit information on the Internet. But the House version prevents the government from making any such restrictions, leaving the marketplace to act.)

Ramstad says the group of 22 is making a move envisioned by the House bill, motivated, he comments, "by the prospect that online systems will never achieve mass acceptance if perceived as harbors for the worst elements of society."

The effort combines work on a technical standard that was underway at MIT with one that involved Microsoft, Netscape and Progressive Networks, a firm that has created a software method for sending audio quickly on data networks.

Firms involved in the labelling effort include CompuServe, America Online and Prodigy, as well as AT&T Corp., Apple Computer Inc., Center for Democracy and Technology, IBM, Information Highway Parental Empowerment Group, Information Technology Association of America, Interactive Services Association, MCI Communications Corp., Microsoft Corp., Massachusetts Institute of Technology — World Wide Web Consortium, Netscape Communications Corp., Open Market, Progressive Networks Inc., Providence Systems/Parental Guidance, SafeSurf, Spyglass Inc., Surfwatch Software, Time Warner Inc. and Viacom Inc.

Microsoft, India Settle Dispute

India has cleared Microsoft Corp. to distribute its new Windows '95 operating system in that country after settling a dispute over a map in the software that shows part of the country lying inside neighboring Pakistan.

Reporting from New Delhi, United Press International says India approved Win95 after Microsoft withdrew the controversial map and apologized to the Indian government. The Asian Age newspaper says the map appears as part of a time zone feature in the software.

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Creative Sound Blaster 32 (wave table) $ 229
Creative Vibra 16 (SB 16 OEM) $ 99
Toshiba 4X EIDE CD-ROM $ 229
Toshiba 4X SCSI XM-3601 $ 449
Creative SE100 video overlay/still image $ 339
Creative MP400 MPEG playback $ 399
Creative RT300 full-motion video capture $ 489

Network Products
D-Link NE250, NE2000 compatible $ 59
Intel EtherExpress Pro/10 RJ45 $ 129
Lantastic 6.0 5 users $ 459
Intel NetportExpress XL print server $ 599
Kingston 8-ports RJ-45 hub $ 159
Intel LANDesk Mgmt Suite v.2.0, 5 nodes $ 559

Services
Picture scanning to diskettes (per scan) $ 10
Transfer photos to CD-ROM(24 pictures) $ 49
Data Archive to CD-ROM (Blank 3M CD $29)
- from Hard Drive $0.69/MB, **FREE** removable hard drive rack with purchase over $100
- from tape or floppy $0.99/MB
- from CD $0.89/MB, Max. 149

Compact disc Recordable

A senior Home Ministry official told the wire service, "The Jammu and Kashmir border was not accurate and a large portion was depicted as Pakistani territory."

On the matter, Hemant Sharma, technical manager for Microsoft, said, "We are remanufacturing the package for the Indian market in which the map does not appear at all," adding future packets distributed elsewhere will not carry the map.

The Indian government has a policy of banning the sale of publications in India that show any part of Kashmir under Pakistani or Chinese control. In the past, New Delhi has prohibited book sales carrying such maps, including Encyclopedia Britannica.

Net Sting Nets Six Arrests

An Internet-based federal sting operation dubbed "Cybersnare" has resulted in arrests of six computerists accused of stealing cellular phone numbers. U.S. Secret Service set the trap in a bulletin board on the Net that appeared to trade in stolen data.

Writing in The Wall Street Journal recently, reporter Gautam Naik says, "'Celco 51,' as the bulletin board was dubbed, billed itself as catering to hackers, and cell-phone and credit-card thieves. The sting began operating in January, and numerous hackers posted messages, including some saying they wanted to fence cell-phone 'cloning' equipment and stolen cell-phone numbers."

A federal agent with the computer alias of "Carder One" posed as an interested buyer and negotiated to purchase the equipment, having it sent to a New Jersey address in return for sending cash to the suspects.

The Journal says Lacap and Watkins each face a maximum of five years in federal prison and $250,000 in fines if convicted. Cushing could face as much as 15 years in jail and a fine of $250,000. The remaining three each would face as much as 10 years in jail and $250,000 in fines.

Says Naik, "Cell-phone bandits usually hide out near heavily trafficked areas such as New York's George Washington Bridge and pluck cell-phone numbers off the air from passing vehicles. In this case, however, Secret Service agents found that the hackers who dialed into the bulletin board had allegedly broken into the cellular networks of major companies, such as AT&T Corp., and stolen 600 to 700 numbers at a time — a daunting type of high-volume thievery."

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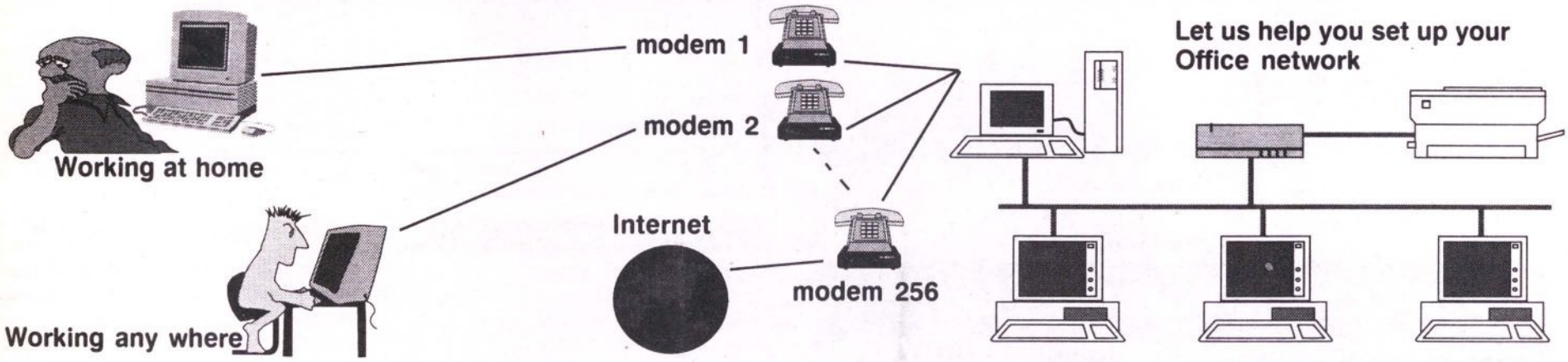

Network Software & Kit

Microsoft Windows NT v3.51 Workstation	395
Microsoft Windows NT v3.51 Server user 1/10/20	875/1250/1595
Microsoft Windows NT v3.51 client each	55
Microsoft Windows 95 upgrade/full version/ plus	129/255/65
Netware v4.1 (5/10/25/50/100)	$1065/2425/3595/4850/6775
Intel Net Satisfaxtion ver 3.0 for Windows on Novell network	$1250
2 user hardware Ethernet kit for NT/95 (no software) includes 2 GVC 10MB cards, 25' coax cable, 2 terminators	$175
Lantastic AI v6.0 Starter Kit (complete setup for 2 node) 2 GVC 10MB cards, 2 software, 25' coax cable, 2 terminators	$285
Lantastic AI v6.0 Add- On Kit (complete setup for 1 node) 1 GVC card, 1 software, 25' coax cable	$155

CA-Accpac/2000 Accounting Software For Microsoft Windows **General Ledger**

CA-Accpac/2000 Accounting Software For Microsoft Windows **System Manager**

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Windowing system/GL/AR/AP	$275/795/1025/1025
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Network hardware

GVC NE2000 16-bit Ethernet Adapter (BNC/10BT)	$65
Intel EtherExpress Pro/10 Ethernet card (10BT)	145
3Com 3C509 Etherlink IIIb Ethernet Card (10BT/10B2)	155
DLink PCMCIA Ethernet Adapter (10BT)	150
GVC 8-port 10BaseT hub	255
GVC 16 port 10BaseT hub	495
HP advance stackable 12 port 10BaseT hub	915
HP advance stackable 24 port 10BaseT hub	1500
HP advance stackable 48 port 10BaseT hub	2795
10Mb 10BaseT UTP cables per foot	0.30
100Mb 10BaseT UTP cable per foot	0.75
RJ45 10Mb 10BaseT UTP male plug/female socket	1/10
RJ45 100Mb 10BaseT UTP male plug/female socket	1/20
10Mb BNC coaxial cable per foot	0.30
BNC connector each BNC/T/barral/terminator	3.5/3.5/3.5/5

Motherboard & RAM

Asus GX4 486DX2-66Mhz VLB/ISA MB, 256k cache	$345
Asus SP3 AMD486DX4-100Mhz PCI/VLB MB, 256k, IDEIO	360
Asus SP3 486DX4-100Mhz PCI/VLB MB, 256k, IDEIO	435
Asus TP4 Pentium-75Mhz PCI/ISA MB, 256k cache, IDEIO	675
Asus TP4 Pentium-90Mhz PCI/ISA MB, 256k cache, IDEIO	795
Asus TP4 Pentium-100Mhz PCI/ISA MB, 256k, IDEIO	975
Asus TP4 Pentium-120Mhz PCI/ISA MB, 256k, IDEIO	1245
Asus TP4 Pentium-133Mhz PCI/ISA MB, 256k, IDEIO	1445
*ask about EDO Memory forAsus' Triton Chipset Motherboards all Asus motherboards use the Award Green Bios unless specified	
AMD 486DX4-100MHz CPU 3V	$160
486 CPU Heatsink / Pentium Heatsink	12/20
1MB/4MB SIMM-70ns (30pin)	55 /195
4MB/8MB/16MB SIMM-70ns (72pin) w/o Parity	190/ 380/ 695
4MB/8MB/16MB SIMM-70ns (72pin) w/ parity	220/ 440/ 825
*Please call on all Ram prices	

Hard Drive, Controller

Western Digital 540MB EIDE HD, 11ms, 64k cache	$255
Western Digital 635MB EIDE HD, 10ms, 64k cache	265
Western Digital 850MB EIDE HD, 10ms, 64k cache	295
Western Digital 1.2GB EIDE HD, 10ms, 64k cache	425
Western Digital 1.6GB EIDE HD, 10ms, 64k cache	625
HP SureStore 1.2GB SCSI-2 HD, 10ms	635
HP SureStore 2.2GB SCSI-2 HD, 10ms	1225
*call for pricing on other drives	
IDE 1:1 HD/FD Adapter w/2S, 1P, 1G	$ 25
Enhanced IDE HD/FD VLB Adapter w/2S, 1P, 1G	40
Promise 2300+ VLB Enhanced IDE Card w/Bios	85
Adaptec AH-1542CF ISA SCSI-2 Controller Kit	$375
Adaptec AH-2842 VLB SCSI-2 Controller Kit	365
Adaptec AH-2940 PCI SCSI-2 Controller Kit	385

Tape, Case, Power

Colorado DJ-35 Tape Backup Drive (350MB Max.)	$225
Colorado Travan T1000 Tape Backup Drive (800MB Max.)	295
Colorado DJ-50 Tape Backup Drive (1.4GB Max.)	445
Colorado Trakker 350 Parallel Backup (350MB Max.)	415
HP JetStore 2-8GB Internal 4MM Dat Drive	1275
3M DC2120 tape cartridge 120MB capacity	$20
3M DC2120XL Tapes, (350MB Max.)	25
3M MC3000XL Tapes, (1.4GB Max.)	45
3M DG90M 4MM DAT Tapes	17
Mini-size 13" tower or Desktop w/200W Jaba PS	$95
Mid-size 19" tower case w/200W Jaba PS	115
Full-size 25" tower case w/250W Jaba PS	165
Full-size 27" tower case w/300W PS 2 fans, wheels	245

Printer & Accessories

Canon BJ-100 BubbleJet Printer, 360dpi	$ 305
HP DeskJet 660c Colour Inkjet Printer, 600dpi	725
HP laserjet 4L 1MB 4ppm, 300dpi	795
HP Laserjet 5P 2MB/5MP PS, 3MB, 6ppm, 600dpi	1325/1575
HP laserjet 4+ 2MB/4M+ PS, 6MB, 12ppm, 600dpi	2175/2945
JetRam card with 1MB for IIP/III/IIID/IIIP	$ 115
HP LaserJet 4/4+/4M+ toner cartridge	155
Raven RP-2405 Printer, 24pin, 192cps	$235
Raven RP-2407 Printer, 24pin, 192cps, Colour Upgradable	295
Raven RP-2420 Printer, 24pin, 256cps, Colour Upgradable	390
Raven RP-2467 Wide CarriagePrinter, 24pin, 240cps	595
Raven Color kit for RP-9105/2406/2420 printer	75
Serial kit for Raven printer RP2406/2420	65
Printer Auto/Rotary Switchbox 2:1/4:1	30/50

Monitor, Video Card

Daytek 14" SVGA Monitor, .28mm dp I/NI	$295/325
Daytek 15" SVGA Monitor, .28mm dp, NI, EStar	475
Daytek 17" SVGA Monitor, .28mm dp, NI, Estar	945
ADI 4Gp/LR 15" SVGA Monitor, .28mm dp, NI, EStar	545
ADI 5Ep/LR 17" SVGA Monitor, .28mm dp, NI, EStar	925
Sony 15sf 15" SVGA Monitor, .25mm dp, NI, EStar	725
Sony 17sf 17" SVGA Monitor, .25mm dp, NI, EStar	1350
Sony 17se 17" SVGA Monitor, .25mm dp, NI, EStar	1675
Cirrus Logic 5422 ISA SVGA card w/1MB	$ 95
Cirrus Logic 5429 VLB Accelerator w/1MB	120
Cirrus Logic 5434 PCI Accelerator w/1MB	145
ATI Graphics Wonder (Mach32) w/1MB (ISA or VLB)	145
ATI WinBoost Accelerator w/2MB Dram (VLB or PCI)	255
ATI WinTurbo Acclerator w/2MB/4MB Vram (VLB or PCI)	370/625
Diamond Stealth 64D Accelerator w/2MB Dram (VLB or PCI)	295
Diamond Stealth 64 Video 3200 w/2MB Vram (PCI)	375
Diamond Stealth 64 Video 3400XL w/4MB Vram (PCI)	695

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USR Sportster 14.4 v.32bis Fax/Modem	(Int/Ext)	$145/165
USR Sportster 28.8 v.34 Fax/Modem	(Int/Ext)	265/295
USR Sportster VI 28.8 v.34 Voice/Fax/Modem	(Int/Ext)	295/325
USR Sportster 28.8 v.34 PCMCIA Fax/Modem		450
UART chip for High Speed Modems		25
MS Compatible 3-button Serial Mouse		20
Logitech Mouseman	(Serial/Bus)	75/ 95
Logitech Trackball serial mouse		115
Microsoft Mouse v2.0 (Serial/Bus)		85/ 115
Logitech Scanman 256 w/Omnipage OCR		155
Logitech Scanman Easytouch		245
Logitech Scanman Colour w/Omnipage OCR		295
HP ScanJet 3P Full Page Grey-Scale Scanner		495
HP ScanJet 3C Full Page Colour Scanner		1395
Bar code laser scanner gun, auto trigger		550
Magnetic card reader (serial or keyboard interface)		195
Magnetic card read/writer		1850

CD-ROM & Others

Panasonic DoubleSpin CD-Rom	$ 125
Panasonic QuadSpin IDE CD-Rom	220
Toshiba QuadSpin CD-Rom 5302B IDE/3601 SCSI-2	255/ 475
SoundBlaster 16 Vibra Sound Card (OEM)	125
Multimedia Stereo Speakers, 25 Watts	50
Sony CSS-B100 Speaker Set	135
Creative Labs Multimedia Home Office 4X Kit	585
Teac 1.20MB 5.25" Floppy Drive	70
Teac 1.44MB 3.5"Floppy Drive / with frame	60/ 65
Fujitsu KB-4870 Keyboard, 101 Key Soft-Tactile	38
Fujitsu KB-4720 Keyboard, 101 Key Click Tactile	65
MS "Natural" Keyboard	125
Focus 2001/2 Keyboard, 101 Key Enhanced	55
Power bar basic/full surge protection	10/12
Gravis joystick	39
APC Back-UPS 280/400/450/600VA	145/215/250/350
APC Smart-UPS 250/400/600/900VA	325/415/495/715

Computer Systems

486DX4-100Mhz (AMD) PCI/VLB Computer Sys. w/Monitor	$1425
Pentium-75MHz PCI/ISA Computer System w/Monitor	1925
Pentium-90MHz PCI/ISA Computer System w/Monitor	2050
Pentium-100Mhz PCI/ISA Computer System w/Monitor	2215
Pentium-120Mhz PCI/ISA Computer System w/Monitor	2495
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Software Sales Up 7.9 Percent

North American sales of PC application software reached $1.57 billion in the second quarter, a 7.9-percent increase from the second quarter of 1994.

That is the word from the Software Publishers Association, which adds total international sales increased 18.7 percent.

Quoting SPA figures, the Reuter News Service says combined North American and international sales increased by 15.3 percent during the period, while unit sales in North America jumped 47 percent.

Reuters says sales of Windows applications increased 18.9 percent for the quarter, reaching $1.16 billion, while DOS sales fell 32 percent from the year-ago quarter to $167 million. In fact, DOS application sales now are smaller than Apple Macintosh software sales. (A total of $226.5 million in Macintosh applications were sold in the quarter, a 7-percent decline from the same period in 1994.)

Storage Format War Brewing

Market researcher Disk/Trend of Mountain View, California, reports that a major contest is emerging between storage systems manufacturers, as makers of rigid disk cartridge, small optical disk and high-capacity floppy disk drives are all taking aim at the burgeoning market for midrange removable disk capacities between 100MB and 1GB.

Besides the traditional demand for such drives in graphics, security, and printing production, a new generation of higher capacity drives at lower prices has opened the door to new markets for which removable disks provide improved convenience. Drives already shipping and units that will soon become available have generated a strong response for use in multimedia content preparation, video production, storing files downloaded from Internet, backing up personal computer hard disks and a variety of other growing applications, says Disk/Trend.

Although overall sales revenue growth for removable data storage products is expected to rise only from $2.9 billion to $3.1 billion during the five year period ending in 1998, the increase in unit shipments during the same period is projected to grow much faster. The fastest growing product group is expected to be high capacity floppy drives, which is forecasted to jump from 203,500 units shipped in 1994 to 3.4 million in 1998.

According to Disk/Trend, new 3.5 inch floppy drives with capacities of 100MB or more are stimulating the rapid growth for high-capacity floppy disk drives. Shipments of older high-end floppy drives are declining, but the new low-cost drives are finding immediate acceptance in a much broader market, including home PCs.

Intel Offers New OverDrive CPU

Intel Corp. has released an 83MHz Pentium OverDrive microprocessor upgrade for 33MHz 486 and 66MHz 486DX2-based computers and cut prices on some other models.

Intel notes that the latest Pentium OverDrive upgrade delivers a substantial performance increase to most systems. Although performance results vary with each computer and application, Intel says an upgraded 66MHz 486DX2-based system will realize more than a 50 percent performance increase in most typical applications. The 83MHz Pentium OverDrive processor is shipping now for US$299.

Intel has also lowered prices on several other OverDrive upgrades. The 63mhz Pentium OverDrive model, which was US$299, now sells for US$279. The 100MHz IntelDX4 OverDrive Processor and 75MHz IntelDX4 OverDrive Processor now cost US$229 and US$179, respectively. Prices remain unchanged on other models.

Scientist Warns of Robot Revolt

A scientist is sounding the alert that robots could someday threaten mankind.

Experts should start looking at ways of curbing robots' power now before it is too late, warns Kevin Warwick, a professor in the cybernetics department at Britain's University of Reading. "It is possibly a bigger issue than human genetics," he told a news conference before a keynote speech to a recent British scientific conference.

According to Reuters writer Paul Mylrea, Warwick said "experiments showed robots could already learn from their own experiences and from other machines they were linked up to directly. The next stage is for robots to communicate with others via computer and even on the Internet."

"Whilst we're more clever, we're alright. But when their level of intelligence gets up to that of humans, then maybe we're not," stated Warwick.

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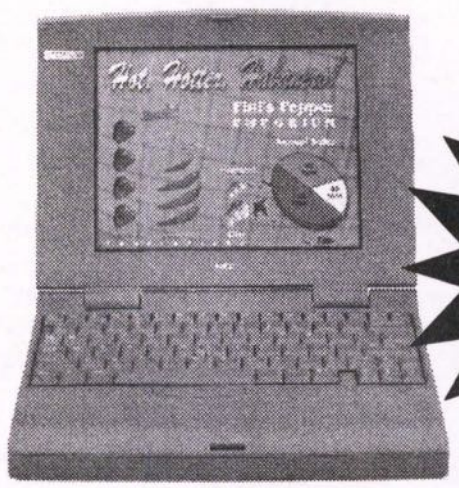

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SmartOne 14,400BPS Fax & Modem Int.	$88
GVC 14,400BPS Fax & Modem Ext.	$138
GVC 28,800BPS Fax & Modem Ext.	$285
Hayes 14,400BPS Fax & Modem Int.	$165
Hayes 28.8BPS Fax & Modem Int.	$299
Hayes 28.8BPS Fax & Modem Ext.	$330
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Multimedia

Pro Audio Spectrum 16	$118
Sound Blaster 16 with SCSI Interface	$236
Sound Blaster 16 Card	$110
Sony 55E IDE CD-ROM Internal	$155
TEAC 4X IDE CD-ROM Internal	$279
Mitsumi 4X IDE CD-ROM Internal	$279
Toshiba 4X SCSI CD-ROM Internal	$480
Plextor 4X SCSI CD-ROM Internal	$679
NEC 4X SCSI CD-ROM Internal	$499

Video Cards

Trident/S3 SVGA Card VLB 1MB	$115
2th Max Weitek 9100 2MB VRAM	$310
Diamond Stealth 64 1MB VLB	$240
Diamond Viper 2MB VRAM VLB/PCI	$499
Diamond Stealth 64 2/4MB VRAM VLB/PCI	$435/665
ATI Graphics Express 2MB VLB/PCI	$299
ATI Mach32 2MB VRAM VLB/PCI	$359
ATI Mach64 2/4MB VRAM VLB/PCI	$390/699

Monitors

Daytek 14" NI. SVGA .28DP	$300
Proview 14" NI, LR. SVGA .28DP	$299
Daytek 15" NI, LR. SVGA .28DP	$445
Sony 15FS 15" NI, LR. SVGA .25DP	$650
Sony 17SE 17" NI, LR. SVGA .25DP	$1,530
NEC 15XV 15" NI, LR. SVGA .28	$670
NEC 15XE 15" NI, LR. SVGA	$810
NEC 17XE/17XV NI, LR. SVGA	$1,499/1,160
NEC 21XE NI, LR. SVGA	$3,080
MAG DX-15 15" NI, LR. SVGA .28DP	$510
MAG DX-17 17" NI, LR. SVGA .26DP	$930

Printers

Hewlett Packard 540 Color Upgradable	$380
Hewlett Packard 4L Laser	$725
Hewlett Packard 5P Laser 600DPI	$1,295
Hewlett Packard 4 Plus 12PPM 600DPI	$1,980
Hewlett Packard 4M Plus 12PPM 600DPI	$2,699
Canon BJ-30 Portable Bubble Jet	$345
Canon BJC-70 Portable Color Bubble Jet	$519
Canon BJC-600 Color Bubble Jet	$575
Canon BJC-4000 Color Bubble Jet	$475
Canon LBP-430W Laser 300DPI	$630

Drives

540MB IDE	$260
850MB IDE	$330
1.28GB IDE	$465
1.44MB Floppy Drive	$49
1.2MB Floppy Drive	$69
Colorado 350 Tape Backup IDE	$199
Colorado 250 Trakker Portable Tape Drive	$399
Fujitsu 230MB Optical Drive SCSI	$860

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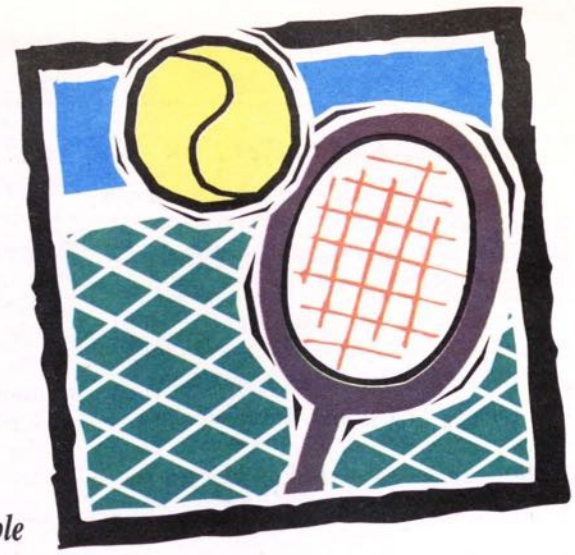

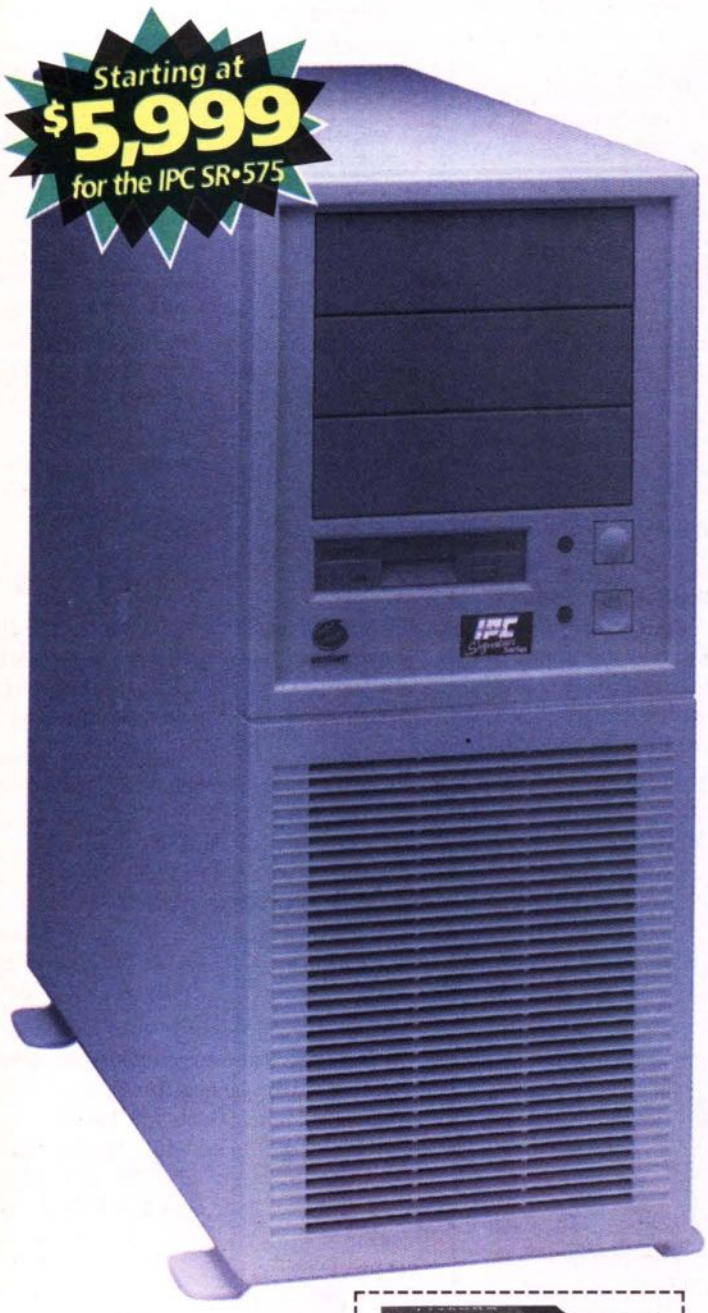

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- **PCI SCSI and Fast Wide SCSI-2 controller**
  - supports 20 MB/sec transfer rate and stacks 16 SCSI commands
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- **512k on-board PCI video** (exp. to 1MB)
- **High speed 16C550 serial & ECP parallel ports**
- **230 watt power supply**
- **2 PCI slots, 5 EISA slots, 1 shared slot**
  - all eight slots support Bus Master mode
- **Three 5.25" & One 3.5" external bays**
- **Six 3.5" internal bays**
- **Intel AIP chip set**
- **AMI Bios** (provides Flash ROM support)
  - provides IDE and PCI auto-configuration, BIOS password security, and five language support
- **Two cooling fans**
- **Microsoft ergonomic mouse**
- **CSA, DOC, UL, FCC, Novell, and OS/2 approved**
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Hearing Aid Offers '486 Power

Oticon, one of the world's three largest hearing aid manufacturers, says its latest model is also the world's smallest computer.

The company, which is based in Denmark, states that its fingertip-sized DigiFocus unit can process 14 million instructions per second, which means that a hearing-impaired person can wear computing power in or behind the ear that equals a standard '486 PC.

Oticon also reports that DigiFocus will be the first hearing aid in which the sound processing is fully digital. The device offers up to 100 software-controlled adjustment parameters, compared to the 10 parameters allowed by most traditional hearing aids. "The effect of the added computer power can be compared to the transition from a radio with only bass and treble controls to a fully digitized recording studio," observes a statement issued by the company.

DigiFocus is scheduled to ship in early 1996. No price has been announced.

CII: '486 PCs Fading Away

New research from Computer Intelligence InfoCorp (CII) indicates that, for the first time, sales of desktop computers incorporating Pentium microprocessors have surpassed sales of all '486-based desktop models.

CII notes that while in the first three months of 1995 '486 PCs held a commanding lead over Pentiums through all channels, the market's momentum began to shift in April when Pentium sales accounted for more than 33 percent of the market. By June, the Pentium had pulled ahead, garnering a 47 percent share of the market. In July, the Pentium's market share reached 53 percent.

"It's now impossible to deny the success of the Pentium processor," says Stella Kelly, an analyst for the La Jolla, California-based market researcher.

"Intel's pricing strategy to its OEMs, and in particular to market leaders such as Compaq, have made it financially unwise for vendors to continue manufacturing and marketing 486-based products, except on a short-term basis. Street prices will continue to hamper vendor and reseller efforts to market 486 models to end users."

CII says that by December, '486-compatible PCs will represent less than 25 percent of PC sales.

Tour Gates' New Home on the Web

MorseMcFadden Communications Inc., a Kirkland, Washington, high-tech public relations firm, will let people follow the construction of Bill Gates' new home through its Walls 96 site on the World Wide Web.

Updated every other week, Walls 96 (http://www.morsepr.com) will chronicle in living color the construction of Bill and Melinda Gates' $50 million mansion.

"Since there are a number of people wondering what happens to the $89 they spend on Windows 95, we thought it only fitting that they be given the opportunity to see where some of these dollars are being invested," says Dan McFadden, president of MorseMcFadden.

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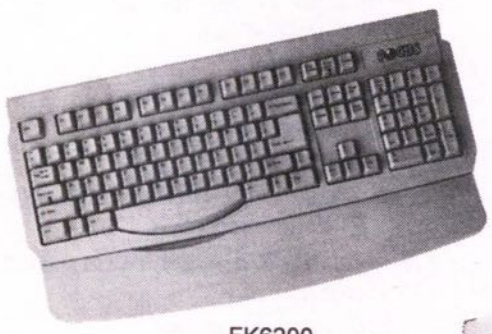

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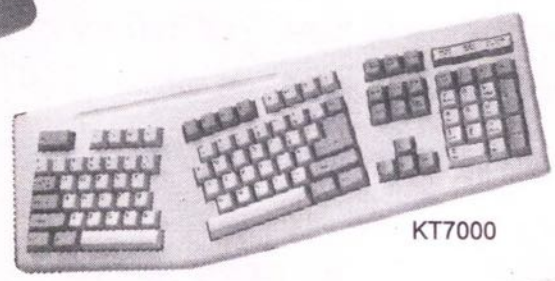

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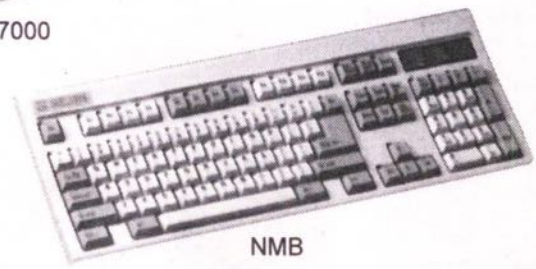

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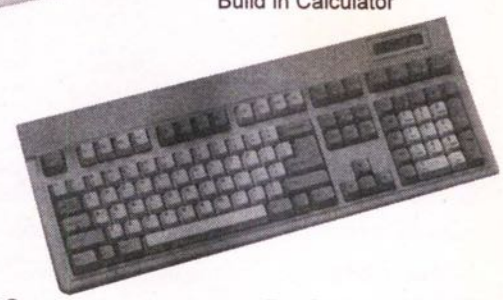

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Storage Format War Brewing

Market researcher Disk/Trend of Mountain View, California, reports that a major contest is emerging between storage systems manufacturers, as makers of rigid disk cartridge, small optical disk and high-capacity floppy disk drives are all taking aim at the burgeoning market for midrange removable disk capacities between 100MB and 1GB.

Besides the traditional demand for such drives in graphics, security, and printing production, a new generation of higher capacity drives at lower prices has opened the door to new markets for which removable disks provide improved convenience. Drives already shipping and units that will soon become available have generated a strong response for use in multimedia content preparation, video production, storing files downloaded from Internet, backing up personal computer hard disks and a variety of other growing applications, says Disk/Trend.

Although overall sales revenue growth for removable data storage products is expected to rise only from $2.9 billion to $3.1 billion during the five year period ending in 1998, the increase in unit shipments during the same period is projected to grow much faster. The fastest growing product group is expected to be high capacity floppy drives, which is forecasted to jump from 203,500 units shipped in 1994 to 3.4 million in 1998.

According to Disk/Trend, new 3.5 inch floppy drives with capacities of 100MB or more are stimulating the rapid growth for high-capacity floppy disk drives. Shipments of older high-end floppy drives are declining, but the new low-cost drives are finding immediate acceptance in a much broader market, including home PCs.

Sides Agree on New CD Standard

In Tokyo, two competing industry alliances have put aside their differences and agreed to standardize on a single high-capacity CD standard.

The next generation disc will be able to store feature- length movies, music and computer data. The standard calls for a maximum capacity of 4.7GB, compared to the approximately 600MB capacity offered by current generation CD-ROMs.

The pact brings together Sony and Philips, which supported the MMCD format, and Toshiba, Time-Warner and several other companies, which backed the competing SD standard.

The as-yet unnamed new format, an extension of current CD technology, integrates all of the technical requirements set forth by both the computer industry's Technical Working Group and the Motion Picture Advisory Committee. It offers forward and backward compatibility with current industry CD and CD-ROM standards.

The alliance allows the industry to sidestep a repeat of the VHS versus Betamax format war, which confused and frustrated many VCR shoppers.

Jobs Expects Net Commerce Boom

"Serious commerce" will be taking place on the Internet by 1997, predicts Steven Jobs, chairman/CEO of NeXT Computer Inc.

Speaking yesterday to a retailing/ investment conference in New York sponsored by Robertson Stephens & Co., Jobs said he foresees an "explosion" in 1996 in what he termed "dynamic publishing" on the Internet.

According to the Reuter News Service, Jobs said most of the pages on the Net now involve "static publishing," with no customized information and pages that do not change very often.

However, he said Federal Express Co. already is involved in dynamic publishing, creating a page that "actually does something," he said. (The FedEx site allows customers to create custom World Wide Web pages, and track the movement of their packages.)

Jobs cited an example of how customers of Chrysler Corp. could create dynamic pages to find out information about car. models, pricing and financing options. And he predicted the regional phone companies will be stepping up their involvement, by offering customers special communications links to the Internet for a small monthly charge.

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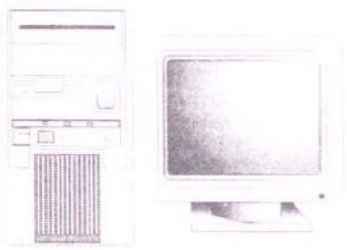

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Magazine Claims Win95 Email Flawed

A computer magazine is reporting it has found a flaw in Windows 95's electronic mail feature that "can leave proprietary data unprotected." However, Win95 publisher Microsoft Corp. says it isn't a bug, but a feature.

At the heart of the issue is the Exchange "universal inbox" that comes with the new operating system. In a statement from Manhasset, New York, CMP's Windows Magazine says "a security problem" in Exchange "means that budget reports, salary information, personnel files, confidential company documents and more, can be left vulnerable to exposure and theft."

MS Exchange is an option that allows users to handle MS-Mail, faxes and email from CompuServe, Microsoft Network and the Internet, among other capabilities. "It is so attractive," says the magazine's statement, "that many people who are installing Windows 95 are converting their current email files to MS Exchange. And this is where the problem lies."

Editorial Director Fred Langa comments in the statement, "Exchange, as it turns out, has a security hole that gapes so wide that literally all your electronic mail may be at risk. You can close the hole, but if you aren't aware of it, you'd be in for a very nasty surprise."

When Win95 users convert their old email to the Exchange format, he said, they are "fooled" into thinking that Exchange will use their old password to protect their new email.

"Wrong," warns Langa. "If you're using Exchange's default settings, chances are any of your co-workers can walk up to you machine and gain access to your 'private' email account with no special hacking, cracking or other knowledge required. By default, there's effectively no protection at all. Even though Exchange asks you for your old password, the software doesn't use the password to protect your files."

Langa commented this isn't the first time Microsoft has shipped a product whose default behavior caused security problems.

"A while back," he said, "Windows Magazine discovered and reported that a default setting in Word 6.0 meant Word files sent electronically could unexpectedly carry all kinds of possibly embarrassing or confidential data along with them. When asked about the security hole, Microsoft told us it really was a feature, not a bug, and the default settings were just fine."

Microsoft is saying the same thing about the Exchange characteristic that Windows Magazine is terming a "security gap."

The magazine said Win95 users who want to change the password setting must do so manually.

Says Langa, "Even if you think you're password-protected, go to Exchange's Tools/Services menu, select the Personal Folder file (or whatever it's named on your system) and click on Properties. Now click on Change Password, enter a new password. Finally, make sure the 'Save this password' box is not checked."

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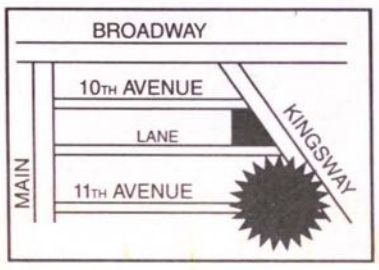

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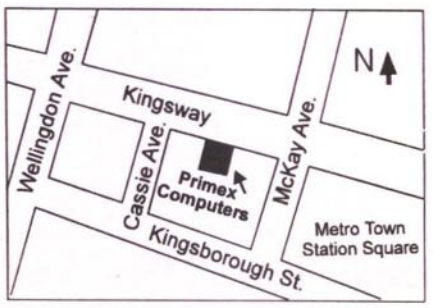

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Frequently Asked Questions

Windows 95 Installation & Setup

Firas El-Hasan

Why does Windows 95 report that certain drives in my system are running in MS-DOS Compatibility Mode?

This can be a result of many different things. MS-DOS Compatibility Mode is much slower than 32-bit disk access mode. The following is a list of possible reasons why a drive is running in MS-DOS Compatibility Mode:

- It is compressed with Stacker 4.x or lower
- The controller requires a driver which is not included with Windows 95
- The controller has a DOS driver that hooks into INT13 and does not allow Windows 95 to take over
- The hard drive is using a version of Disk Manager lower than 6.03
- You have Virus Checking enabled in your system BIOS
- Your CD-ROM drive interface is not supported by Windows 95, and you are running the DOS real-mode drivers from your AUTOEXEC.BAT and CONFIG.SYS

For instance, the Promise EIDE2300+ controller card is not directly supported by Windows 95, so Windows 95 will run in MS-DOS Compatibility Mode. However, Promise currently has beta drivers for Windows 95 publicly available, which allow Windows 95 to take full advantage of this card, and thus run in 32-bit disk access mode. For more information regarding CD-ROM drive support , read the section titled "Can I safely delete my AUTOEXEC.BAT and CONFIG.SYS?".

Can I safely delete my AUTOEXEC .BAT and CONFIG.SYS?

Note: When this document refers to removing a line in your startup files, it means that you may delete it or put a REM before it. Backup any files that you are going to change, before you begin editing.

Although Windows 95 supports many hardware devices, it does not support all of them. Thus, the answer to this question depends on your system configuration. The first step is to open the Device Manager in Windows 95:

- Right click on My Computer
- Click on Properties
- Click on the Device Manager tab

Browse through the listed hardware devices. Check to see if Device Manager lists every piece of hardware in your system, including your CD-ROM and sound card. If it does, then you can begin the process of editing your AUTOEXEC.BAT and CONFIG.SYS, if you have not already done so. This process is optional, but will most likely regain memory that is not being used wisely. In your AUTOEXEC.BAT, you may remove MSCDEX, though Windows 95 should have

(Continue on page 32)

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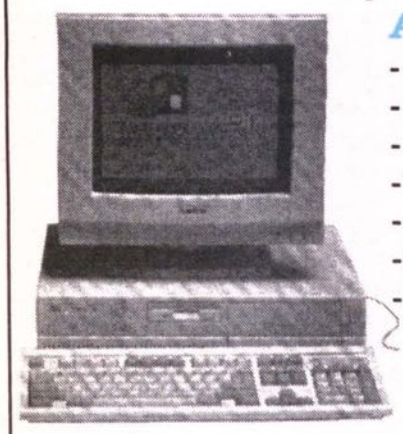

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A History Lesson

John Hamm

The first major desktop database product was **dBase II** released in the early 'eighties. This was a very macho, very hot piece of software in those early days of micro-computing. It was designed for the CP/M operating system and with a CP/M board installed would work quite nicely on an **Apple II**. When the **IBM-PC** came out **dBase II** was ported to MS-DOS and was one of the earliest business applications, along with **WordStar** and **Visicalc**, in the PC world.

Soon **dBase II** was followed by **dBase III** and **dBase III Plus**. About the same time, from a tiny start-up called **Fox Software**, came **FoxBase** and **FoxBase Plus**. **FoxBase Plus** was virtually identical to **dBase III Plus** except that it was faster - MUCH faster. The dbase world was torn asunder. **Ashton-Tate**, the company that then owned dBase, began a long-running lawsuit that tied both companies up in the courts for years. It was because of this lawsuit that people started using the word "xbase" to describe the database programming language that both companies used.

In the meantime both companies developed new versions of their software. **Ashton-Tate** brought out a buggy, bulky monster called, you guessed it, **dBase IV** while **Fox Software** brought out **FoxPro**. **FoxPro** was slick and fast and quickly became the database developers' product of choice.

A Vulcanized Judgment Call

Somewhere along the way the lawsuit was finally settled. The judge ruled that dBase was derived from an even earlier product called **Vulcan** and that the dbase (xbase) language was public domain. **Fox Software** was in the clear and was immediately grabbed-up by **Microsoft**. **Ashton-Tate** fell on hard times and was eventually bought-out by **Borland** from the cash surplus it had accumulated from the sales of **Turbo Pascal**.

Microsoft brought out **FoxPro 2.0, 2.5** and **2.6**. For awhile **FoxPro** was the only game in town for xbase developers but it was never a satisfactory tool for developing Windows database applications. The dreaded READ statement was clunky and logically difficult. **Visual Basic** and **Access 2.0**, both from **Microsoft**, became the tools of choice for Windows developers. But, for some of us, the choice was reluctant. **Access** is slow and not suited for large databases. **Visual Basic** too, has its limitations and, well, it just isn't xbase.

Xbase developers began to see hope when **Borland** brought out **dBase for Windows** last year. Alas, it was close but not quite right. True this is a subjective value judgment but the fact is that **dBase for Windows** did not set the world on fire.

Microsoft Visual FoxPro Arrives

At long last, **Microsoft** has released **Visual FoxPro 3.0**, a visual database development system with xbase as the root programming language. This may just be the product xbaser's have been looking for. You can STORE and REPLACE to your heart's content while learning all the new object oriented extensions.

We will save the in-depth review for next issue as we have only had a few days to look the product over. In the meantime we will make a few brief observations: the interface resembles **Microsoft Access** in that a tabbed container window holds all the files associated with a project. The "visual" design methodology is the same as that pioneered by **Visual Basic**. Command buttons and other Windows controls are dragged to the form from a floating toolbox and properties are assigned to these controls by clicking on the desired effect in a "properties" window. Events, such as button clicks, are programmed in an edit window. Needless to say, the programming language is xbase.

My very, very early opinion: if you are an xbaser with a DOS background you should like this. Interface design is easy, especially if you have already played around designing forms with **Access** or **Visual Basic**. All the xbase stuff is there in the event procedures without all the extra hassles that **FoxPro for Windows** used to impose.

If you're language is not xbase you will probably prefer the **Visual Basic/Access** combo. They are mature products with enormous support. If Microsoft addresses the speed and large database issues in the next release of **Access** this will be a formidable weapon.

We have not yet reviewed the new **Visual dBase**. **Borland** has invested heavily in building object libraries and is able to apply the technology developed for **Delphi** to products such as dBase. This can only improve the stability and usability of the software.

And What about Borland?

Meanwhile, back to our history lesson. We all know what happened to **Microsoft** but what to **Borland International**?

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the lucrative Windows spreadsheet market was sold to **Novell** to bandage the hemorrhaging cash flow. The company was re-organized to increase profitability. Gross profit margins increased from 80% to 84.9%, operating expenses were cut from $68.5 million the prior year to $43 million. Phillipe Kahn, the flamboyant founder of the company was sent out to pasture. [Editorial note: Flamboyant can only be the word, can you imagine your company losing money if you had a GP of 80%?]

With its financial house back in a semblance of order **Borland** released **Delphi**, the Object Pascal-based Windows programming environment. **Borland** has said that it shipped over 125,000 units of **Delphi** in the first quarter. We do not have statistics for the second quarter but all indications are that **Delphi** has become a best-seller as it takes over the niche formerly occupied by **Microsoft's Visual Basic. Borland's** success with **Delphi** has been reflected in the stock market. From a low of $6 at the beginning of the year, shares in the company rose to $11 this summer and are now (mid-September) sitting a $16. Somebody believes in **Delphi**!

Borland Delphi Support on the Net

The nice thing about software when it becomes popular is the support. If a lot of people are using the product you don't have to waste your time and money talking to less-than-knowledgeable product support representatives on 1-800 lines. Help is everywhere. Software users love to share their knowledge and this is certainly the case with **Delphi**. If you have access to the internet you will find **Delphi** Web pages are springing-up all over the place.

Our favourite **Delphi** web page is sponsored by **Grumpfish Software** in Oregon. Try "http://www.teleport.com/~grump/delfiles.htm" for hundreds of freeware and shareware components you can add to your **Delphi** toolbox. There is an 11k index of files you can download or check out the Shareware/freeware link to see new components that have been added to the list today - often 3 or 4 new offerings per day.

Another nice Delphi page is **The Delphi Source** at "http://www.doit.com/Delphi/". Here you will find reviews of Delphi books and at least six issues of The Unofficial Delphi Newsletter. You should also check out **The Delphi Station** at "http://www.teleport.com/~cwhite/wilddelphi.html" for tips and techniques and some excellent code examples.

All these sites contain links to other sources of **Delphi**-related material.

If your thirst for knowledge is insatiable there are also the internet discussion groups: comp.lang.pascal.Delphi.components, comp.lang.pascal.Delphi.databases and comp.lang.pascal.Delphi.misc. These are excellent sources of information and questions are usually answered quickly and insightfully from some very dedicated enthusiasts.

Finally, we should mention "http://www.Borland.com/" for the latest **Delphi** patches (yes there are patches) and technical papers.❑

About the author: ***John Hamm*** *is a consultant and database application developer at* ***Eastside DataGraphics****, Tel: 255-9559, e-mail: John_Hamm@MindLink.bc.ca*

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ClarisDraw for Mac

Michael Marrapese

Looking through the Manual for ClarisDraw (version 1.0v1) there were a lot of features that got me pretty excited.

My work involves illustration, graphics production and desktop publishing for a variety of clients and as a result I use a lot of different software packages to achieve results. My preference these days is Adobe Illustrator for text handling, titling, etc. and its strong auto-tracing function. I use Aldus Freehand for the actual artwork. I still get real upset if you ask me how to combine files from the two programs because there is no easy way. I tend to make rough sketches on paper or in Freehand, save them in TIFF or PICT format, import them into Illustrator for text, titling or auto-tracing, export the results in TIFF format to include in Xpress or Pagemaker documents and then create final artwork from Freehand in TIFF or EPS format. My hope for ClarisDraw was that here was a program that might change all of this.

ClarisDraw looks like the Graphics module in ClarisWorks should look. It's full of features. Text is supported in a variety of ways with outlining features, spell checking, text wrap controls, text linking and text binding to graphics. It has "Paint" (or bit mapped) graphics functions with the old familiar MacPaint tools present (plus a few more goodies). You can create slide presentations and show them on screen. And, of course, it has the "drawing" (or vector mapped) functions similar to most drawing programs. In general, parts are very well integrated and the program is reasonably intuitive to use.

Installation was very painless, even onto my Syquest removable media drive. The manual is very clear, easy to read, nicely laid out, though I found it a little thin. There are very few clues about what goes on behind the scenes in this program. For example; "How much memory should I allocate to ClarisDraw? Hint: Add until you have enough"...

Product Info.
Product: ClarisDraw for Mac.
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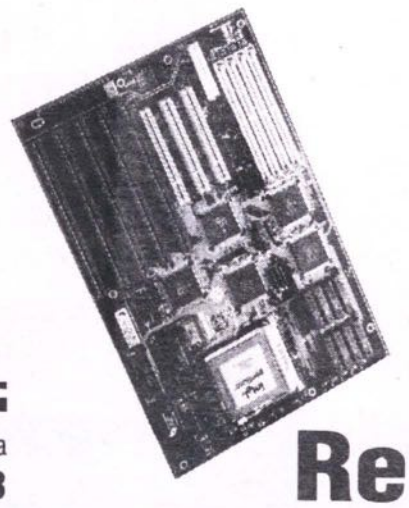

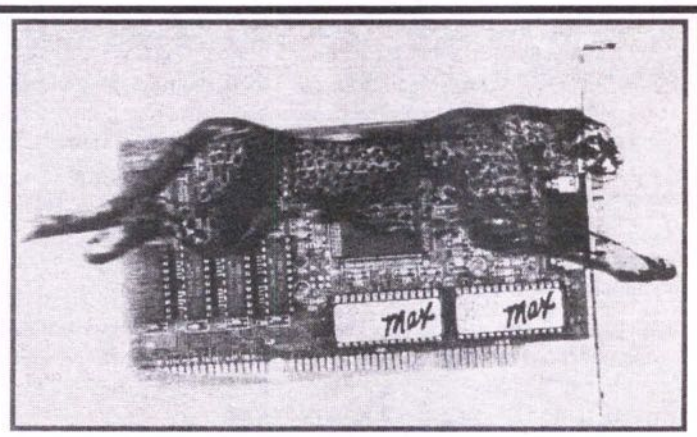

PC MAGAZINE LABS Dec.7,1993
HARDWARE
Agood design can count as much as memory when producing Microsoft Windows accelerators ... the $279 Focus 2 the max TrueSpeed W32i ... Managed to post impressive score on our benchmark test ... also were at the top in terms of their DOS video scores. Impressive performance at a relatively low price earned ... an honorable mention.

PC MAGAZINE LABS Apr.13,1993
HARDWARE
Graphics Adapters
The second-fastest of these nine boards on our AutoCAD tests was the Focus 2 the Max TrueSpeed. By opting for third-party drivers instead of the S3 versions, though, you'll get extra convenience features - bird's-eye views, panning, pop-up menus, zooming. By the time you read this, however, S3 plans to be shipping updated AutoCAD drivers that support these features.

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The user interface is well thought out and well implemented which is kind of standard in Claris applications. There are a number of "tools" which "toggle" but they are clearly marked. When I accidentally lost a tool I could easily accidentally relocate it.

General Likes

• Painting Functions

At first glance, I was surprised that Claris decided to include painting (or bit mapped drawing) functions. I've been working in Illustrator and Freehand so it's been awhile since I've even thought about bit mapped drawing tools. To my delight, I got reacquainted with the spray can which was one of my favorite paint tools back in my MacPaint days.

• Other Nice Touches

Adjustable paint resolution. One unique feature in ClarisDraw is the resolution and depth settings. With these controls you can adjust the resolution of your painting tools and the bit depth (number of colours or shades of grey) of the painting. Now your spray can will paint at laser printer resolution and in full colour.

Distort effects. Personally, I don't see much use for the distort effects on painted (as opposed to drawn) objects; you get some pretty ugly results when you distort bit mapped text and graphics. There may be times where, for effect, it works. I have used this feature for creating rough sketches which I then trace over with drawing tools. Kids love the distortion effects but personally, I think the paint module is too cumbersome for kids to deal with and still have fun (it would be an interesting lesson in patience).

• Drawing Functions

It didn't take long for me to be comfortable with the drawing functions in ClarisDraw: they are essentially similar to the functions and tools in many drawing programs. Overall I would say that the drawing tools are excellent; well implemented and highly functional. Drawing and text handling are definitely ClarisDraw's strong points.

The program hosts tear-off menus for many functions, and editors for colours and gradients. I think Claris deserves major kudos for the editing functions; they are simple, intuitive and very effective. I enjoyed getting lost in the gradient editor, especially with a Sony Trinitron monitor in a dark room late at night.

ClarisDraw has excellent text manipulation functions considering it is a drawing program. You can bind text to objects to create curved baselines and logotype, wrap text around objects for brochure layouts and convert type to curves in order to add custom strokes and fills to characters or to reshape fonts for custom uses. It also has a spell checker which is useful for layouts with a lot of text.

I liked the dashed line, arrowhead and connecting line controls and editors: Claris has made these features actually useful. It's great for maps and technical drawings. Also very useful for technical drawings are the Views, layers and libraries functions. These are well implemented and very intuitive (once you know they are there).

The shapes feature (which allows you to draw stars, cylinder, boxes, arrows, etc.) is useful and kind of fun (though I would like to be able to add other shapes to the menu).

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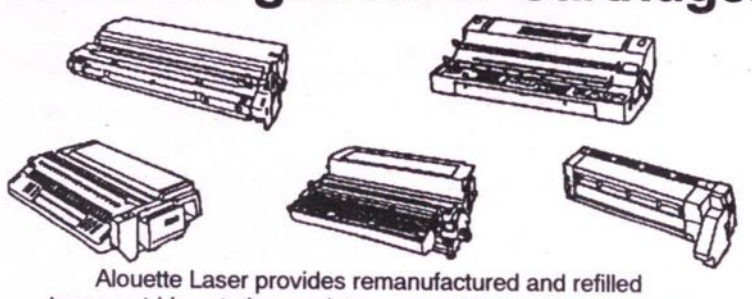

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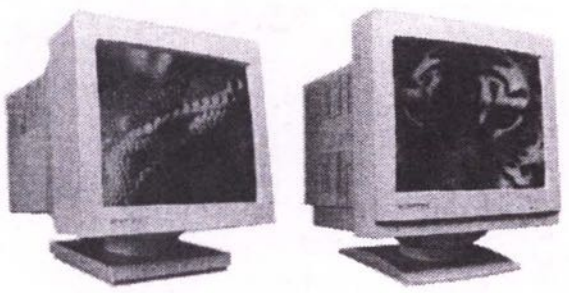

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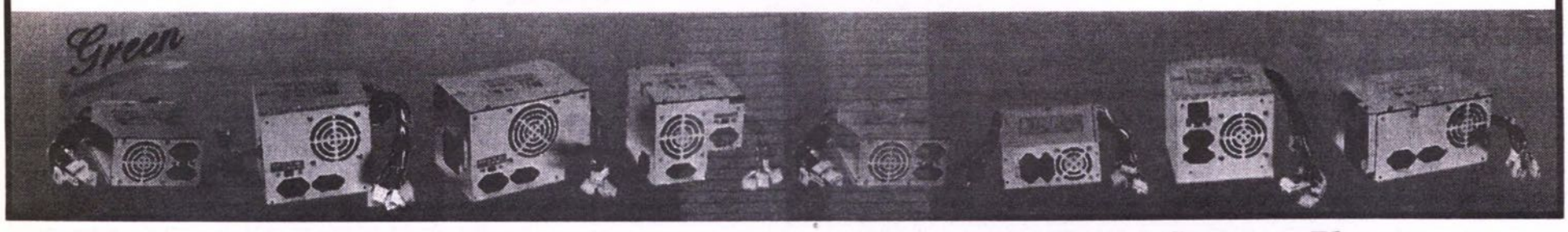

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From my view of the graphics production world the best features (and features I have not seen on other programs I currently use) are the gradient palette and the gradient editor (which are excellent) and the "making objects the same size" feature. I practically kicked myself as I had just finished work on a 24 page publication where these features would have saved me 20 hours of work had I just opened the ClarisDraw box a day earlier.

Dislikes

- Slide shows

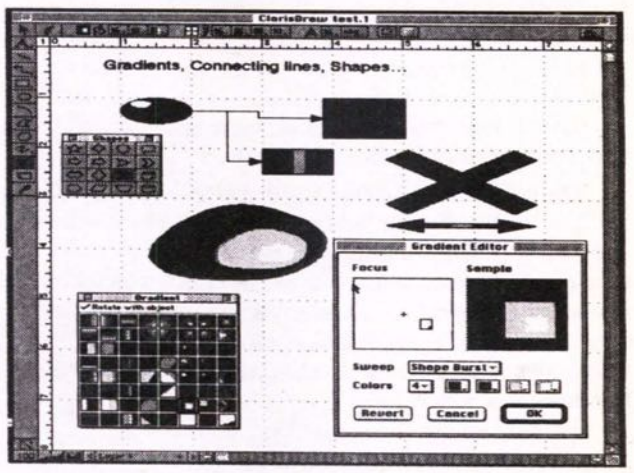
I shouldn't actually say I dislike the slide show functions; they look really good on paper. But, since I couldn't import MORE scripts and graphics without a lot of acrobatics, I didn't test this feature terribly well. Which brings me to...

- Compatibility...:

Well, compatibility is one of those sad stories. Nobody ever gets enough of it or gets in right the first time. You can import PICT, PICT2, TIFF, MacPaint and EPSF files for placement in ClarisDraw graphics. You can also edit imported scans with the paint tools but only at a very basic level. Also, with the appropriate translator, Claris claims you can open graphics created in other applications. The trick to this approach is the "appropriate" translator. When and if they are made available, you will be able to translate other files. Exporting follows the same scheme and the same limitations. I should point out that these a probably temporary limitations for the most common formats; translators will likely be available soon though you will have to search them out. Exotic or esoteric formats? Who knows?

- Speed

In general the paint (bit mapped) module is slow to work with and not as well integrated as a program like Superpaint. Because of this it's difficult to take advantage of the high reso-



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lution paint features. When I tested the program on my Quadra 650 it worked fine, on the Mac IIcx the paint module was clunky and on the SE, forget it. Also, when switching between paint and draw windows there is a lot of disturbing and time consuming screen redrawing (hint: don't leave tear off palettes open more often than necessary).

- Paint Windows

To use the Paint features you have to create a separate paint window to contain painted objects. I realize this is the cost of having variable resolution and colour depth in one document but I don't have to like it. Another down side of the increased resolution is that it doesn't preview well on 72 dpi monitors. I didn't like the fact that as you increased resolution, your painting tools got smaller: your paint brush still paints the same number of pixels they are just smaller. This meant the same size drawing took twice as many (at least) brush strokes.

More beefs

I would really like a multiple undo: when I work in an application that has this feature I really appreciate it. It's probably the biggest lack it this program.

Memory is another consideration. It takes at least 2 megabytes of RAM (minimum) to run the program and and even when I allocated 3 megs I still had memory shortages when trying to move painted objects between layers.

My biggest complaint is that printing is not well supported. The manual doesn't even mention separations; the page and printer set up dialogue boxes are the standard printer driver menus. This is one of those major omissions for one user and a great relief for another. For someone who already uses advanced printing features, they can't work without them; for someone who's never heard of them, they never miss them. ClarisDraw doesn't support the Pantone Matching System, another one of those mixed blessings. You can edit colours and save custom colour palettes though trying to match colours on the screen to colours on your output will plague you forever. So far ClarisDraw doesn't conflict with Inits or other back ground programs too seriously but it does crash, although not frequently (hint don't try to do anything until the screen is completely redrawn or the file is completely spooled; this helps). ClarisDraw does support Quick time though I don't have much use for this feature in a drawing program at this time.

Conclusion

While ClarisDraw is a well implemented and very intuitive drawing program it still falls short of being everything to everyone. You can use it for drafting, drawing, illustrations, slide presentations and slide production, desktop publishing and scanned image processing but I wouldn't do all of the above without some backup. If one of these areas is your major use, you would probably need other programs for support (particularly for colour separations, and scanned image, screened images and TIFF file editing).

I wouldn't call this a major criticism since you could say the same for most software packages: I use Microsoft Word, ClarisWorks, Excel, FreeHand, Illustrator, Pagemaker, Quark Xpress, Photoshop, Typestyler, TurboCad, MacDraft and Filemaker Pro just to keep my life together. For the first time user, the occasional user or the just for fun user, Claris Draw is great. If you had a desktop colour printer, you could put a lot of miles on it with this program. Maybe if you had a slide printer...

If you already own a graphics or illustration program the major attractions might be the ability to create slides and slide presentations, the gradient editor, the text manipulation and the modest drafting capabilities. I wouldn't want to design jet engines with ClarisDraw but you could certainly use it to design the floor plan of your house. It's definitely useful for someone who needs to do technical drawings or maps and can't spend the time or money to learn a drafting program. For simple brochures and flyers, this program can do it all. The painting features are a definite weak point but if you only need these functions occasionally, it would probably do.

Claris Draw is kind of a fun program; good for the graphics "do-it-yourselfer" or the amateur neighborhood graphics whiz, but not for the busy, serious, commercial illustrator (hey, lighten up). I think I'll play with the text binding features for a while, see what I can come up with.❑

About the author: ***Michael Marrapese*** *is a Vancouver artist/poet/musician and longtime Mac user. Along with all that, he does a lot of work in computer graphics and desktop publishing, as well as teaching and consulting with community-based organizations, charities, and worker-owned businesses. You can contact him c/o computer_player@mindlink.bc.ca*

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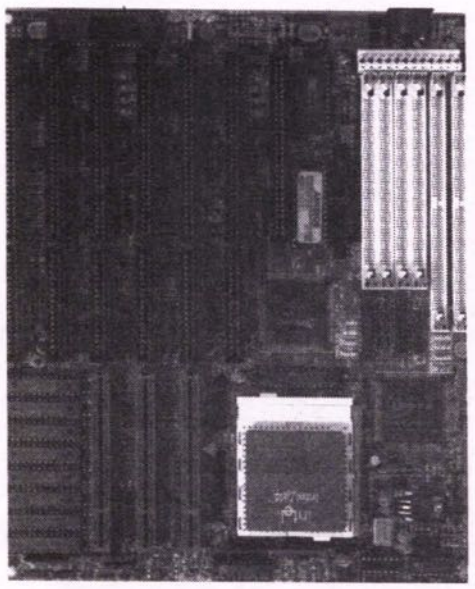

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MEMORY	256MB Max on board supports from 1MB to 256MB
CHIPSET	Winbond 83C491 and 83C492
EXPANSION SLOTS	**3*32 bits (VESA)**, 1*8 bits, 6*16 bits (ISA)
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SIZE	260mm (L) * 220 mm (W)
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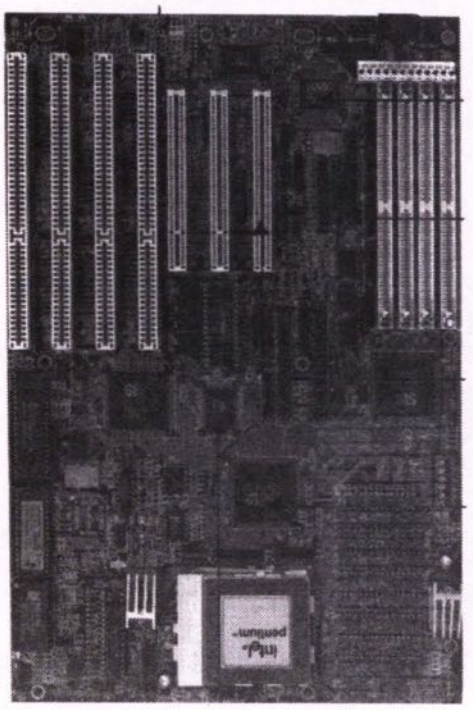

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MS OFFICE:
This Suite Smells of Success

Alan Zisman

Windows 95 is nice, but while it does a pretty good job of running the current generation of applications, it really needs new applications to take advantage of all its improvements. It really shouldn't come as much of a surprise, therefore, that Microsoft is revamping virtually its entire product line to run as native, Win95 applications.

The flagship of Microsoft's armada is the MS Office suite— it should come as no surprise that MS Office 95 was released on August 24th— the same day as Windows 95 itself— might as well give everyone in those long lineups something else to buy! (well— nearly ready. The update to Access, the database included in the Office Professional package, isn't quite out of beta-testing yet. Instead, purchasers of the Pro package get the Access 2.0, with a coupon for a free upgrade when the Win95 version is ready).

In the past few years, software Suites have become big business— accounting for a majority of sales of word processors and spreadsheets, for example. And despite competition from Lotus SmartSuite and Novell (formerly Word Perfect) Perfect Office, MS Office has garnered over 70% of the suite sales. Where in the former DOS world, Microsoft seemed to always have the also-ran contender in word processor and spreadsheet sales, the combination of Windows and suites has pushed them into a comfortable sales lead.

Take Advantage Of Windows 95

Many of the improvements that Office-95 users will like best aren't really improvements to Office— they are common to any programs designed for Win95. Users quickly learn to enjoy long file names, for example— something that Mac-users have appreciated for a decade. No more Q3-95BUD.DOC to identify that "3rd Quarter 1995 Budget" word processing file. (But Win95 automatically creates a standard DOS 8+3 file name as well, so the file can be used on computers or with software that's not up to long filenames yet).

All Win95 applications must be written as 32-bit software, rather than the 16-bit versions standard with Windows 3.x. This doesn't automatically make them run faster. The 32-bit Windows NT versions of MS Word and Excel, for example, ran slower than their 16-bit equivalents, because they left out the highly-optimized programming code of the older versions in order to be compatible with NT on a wide range of CPUs.

The newer Win95 versions of these programs, however, do feel snappier than the last generation. And, as 32-bit programs, Windows 95 will run them in separate multitasked sessions— making them harder to crash by some other misbehaving program. These are big programs, however, and while they'll run (at least one at a time) on 8 meg machines, you might want to consider upgrading to 16 megs if you're going to run them regularly, especially if you need to run several at once.

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Win95 allows new programs to be multi-threaded— to run separate processes in the background to improve performance. The Office applications don't make much use of multithreading, however, adding it only to printing.

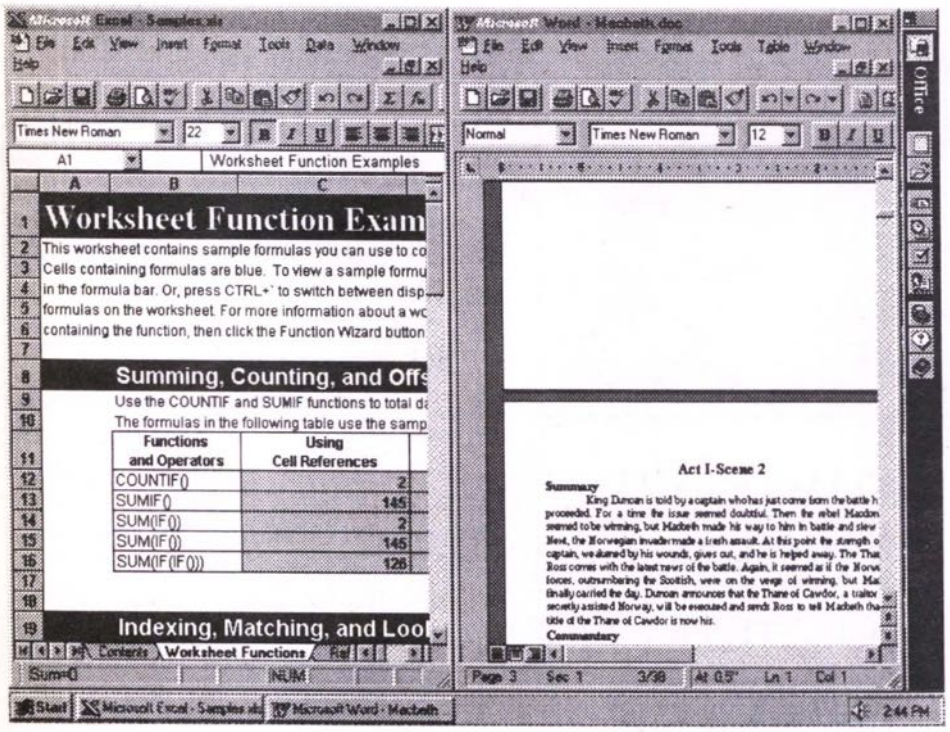
A nice Win95 feature that may take getting used to is 'Scraps'— you can now highlight part of a document, and drag it to the desktop, where the scrap can sit and wait for you to drag it into a different document or even a different application. Use it, for instance, to drag an address from a letter, and drop it into a contact list... but like the other features, only usable with Win95-compatible applications, like all of Office 95. Similarly, right-clicking on the desktop gets you the standard Win95 popup menu— choose New to simply create a new Word or Excel or Powerpoint document. In fact, as with Win95 in general, right-mouse clicking is implemented throughout Office 95.

Office 95 applications also all make use of Win 95's Exchange client— you can send e-mail from any of them, or use it to share information across a network. You can also use Word to edit your Exchange e-mail. Help items in all the applications can automatically connect you to the correct forum on the Microsoft Network (if you have registered for an account!)

Working Together

Suites have been marketed as a bargain— a way to get three or four applications for the price of two. Office continues in this tradition, as before, bundling MS Word word processor, Excel spreadsheet, and Powerpoint presentation graphics (plus the Access database in the Pro version). Schedule Plus, a group scheduler and personal information manager that debuted in Windows for Workgroups has been moved from the core Windows package into Office. (WFWG users can get a free upgrade of Schedule + from Microsoft).

As well, suite marketing has claimed that purchasers would find it easier working with a collection of applications that were sported the same interface. Unfortunately, the reality has not always lived



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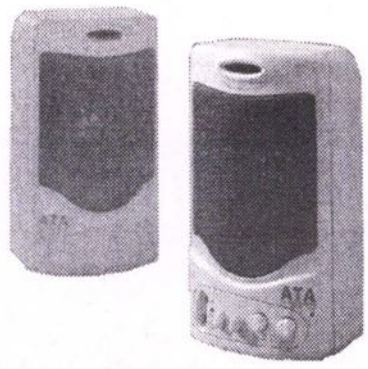

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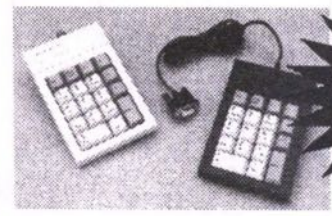

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up to this— the applications found in suites may have come in a single box, but have tended to leave more than a little to be desired in terms of working together.

Office 95 is better than previous versions in this way— Microsoft's programmers worked on using as much common code for all of the applications: they share File Open and Save dialogue boxes, for example, enhancing Win95's standard dialogues with Previews of the selected files and integrated search. While users of Word 6.0 could run AutoCorrect, now this feature appears across the Office, as does a new help extension, the Answer Wizard. A nice touch is the vertical scrollbars— you can now see what page number you're scrolling to. Common spell checking dictionaries, including user-customized dictionaries.

You can open these applications from Win95's Start Menu, but by default, you get the Microsoft Office Shortcut Bar, replacing the previous version's anemic Microsoft Office manager (MOM). The Shortcut Bar (sorry, no cute acronym) floats on the desktop, or can be anchored to an edge of the screen... and you can add any Win95 shortcut to it, by just dropping it onto the Shortcut Bar— making it an easy way to access any of your favorite applications, whether its part of Office or not. You can have multiple Shortcut toolbars— it's configurable enough that some users may find it preferable to Win95's Start Menu for most of their computing.

In addition, Office adds a new kind of document— a Binder file. This lets you combine data from any of the Office apps, or other Office-compatible software into a single, notebook-like setting... as easily as dragging them in. You can number pages, or check spelling, as if this was a single file, regardless of the source of the data... a step in the direction of working with documents that fit your data, without having to start off with single applications. Because the Binder uses OLE 2, as you change to a page created in a different application, you don't open that application— your tool bar and menus change to fit the data. (And OLE 2 works much more smoothly in Win95 than in previous versions— but still demands a lot of ram).

Several years ago, Microsoft promised a single, Visual Basic-based macro language, that would be supported across its applications. While Excel has supported Visual Basic for Applications, Word and PowerPoint still lack this support. Word and Excel continue to use the same file formats with the previous versions, but PowerPoint and Access produce new, incompatible files.

Working Separately

The applications in Office95 benefit from being designed for Windows95, and to share the common features of Office. Otherwise, the actual feature-sets of the separate applications are not dramatically changed from the last generation. That's not a bad thing— Word 6.0 and Excel 5.0 were both rich with features that many users still haven't had a chance to fully get used to.

All applications in the suite now sport a '7.0' version number— even though in some cases, this means jumping a few numbers (Excel 5.0 to 7.0, Access 2.0 to 7.0— Word skipped in the previous generation, from 2.0 to 6.0... now it too, shares the 7.0 moniker).

Word 7, for example, builds on the previous version's Auto-features, some-

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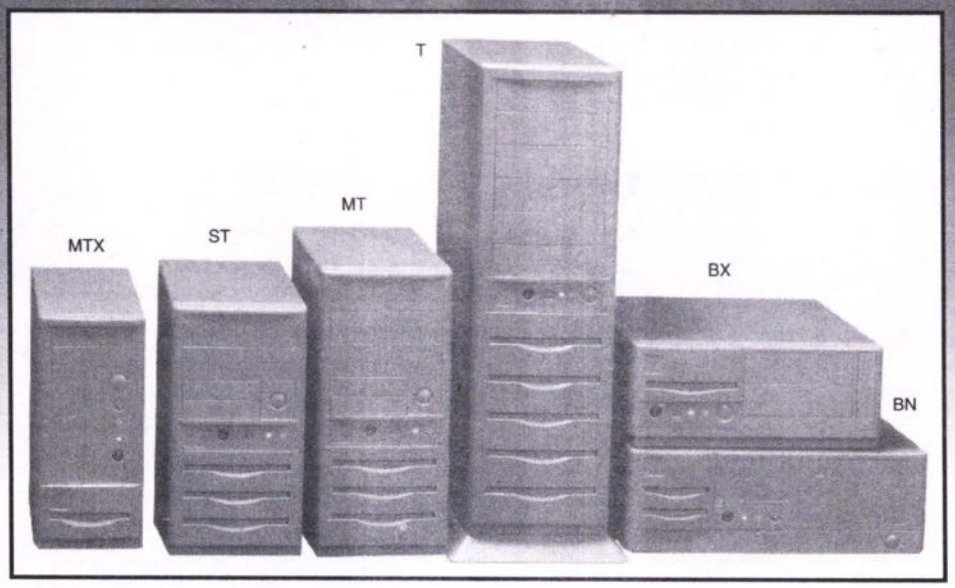

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times feeling like it's become Auto-everything. As before, you can Auto-correct (now available in all the Office apps) so that when you type 'teh' you get 'the'. Now you also get auto-bullets. Starting a line with "—" gets you the default bullet symbol. Start with a number, and you get a formatted numbered list. Headers auto-format. A row of dashes becomes an instant border.

Pause in your typing, and your spelling can be checked... this seems to work more smoothly than a similar feature in the beta of Lotus's Word Pro that I recently looked at— there, every word typed appeared as a mistake until you finished typing it by pressing the spacebar... a disconcerting changing of colour.

Auto-mania also comes to Excel. AutoCorrect, again. But also AutoComplete... like in Quicken or MS Money, start to type in a previously-appearing name in a cell, and it fills in the rest for you. Highlight a bunch of cells, and the total is automatically calculated, and displayed on the bottom of the screen.

New to Excel 7.0 is Data Mapping, a feature that premiered on Lotus's 1-2-3, release 5. Data in a spreadsheet can be translated into a colour-coded map, as easily as into a chart. A basic set of maps is included, with the promise of more from third-party suppliers (no neighborhood map of Vancouver, as yet).

Another steal from Lotus SmartSuite is tighter links between the spreadsheet and the database program, in this case, Excel and Access. Users will have to wait for Access 7.0 to see these in action, however.

I wasn't too impressed with the Windows for Workgroups version of Schedule, preferring Lotus's Organize as a simple personal information manager (PIM). I haven't seen anything in the Office95 Schedule + that changes that opinion... but if you don't currently use a PIM, it's worth a look; it is more fully-functional than the previous version. As well, it is well integrated into the rest of Office. For example, you can pull names and addresses out of Schedule + into a Word letter. Oh— it also includes a Wizard to work with that Timex computer watch.

And I haven't looked at Powerpoint, Office's presentation graphics program— I'm saving it until I can compare it, head to head, with Lotus's new, Win95 version of Freelance Graphics.

Like all of the current suites, Office 95 is a hefty program, that can demand a lot of ram and hard drive space. It can be installed in a minimal fashion, taking a 'mere' 27 megs, or can be set up to run off a CD-ROM drive (which still asks for 30 megs of hard drive space). Microsoft claims a typical installation will require about 55 megs of space— a full install takes 89 megs. If you find yourself regularly opening Word and Excel at the same time, perhaps to drag a spreadsheet chart into a word processing document, you'll be best off with 16 megs of ram. If you get the CD version, you get the bonus of Microsoft Bookshelf on the disk— a useful collection of reference tools (dictionary, thesaurus, atlas, desk encyclopedia, famous quotations, etc).

Home users and some small offices running Win95 may find their needs better served with one of the new generation of all-in-one programs, such as Microsoft Works-95, or the soon-to-be-released Claris Works 4.0.

Even though the biggest improvements users will find with this suite come from Windows 95 (like long file names) rather than from the core applications, at the moment, this is the product of choice for business users running Win95. Even when Lotus and Novell release their Win95 competitors, in a few months, this will remain the one to beat.❑

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Carolyn Luke

Imagine that you're a grade two student and it's your first day of school. Your teacher announces that the class is taking an exciting field trip to the Caribbean. 'B-b-but... what's going on?' you exclaim — my parents don't even know! Oh, the teacher says, we won't be leaving the classroom. Just turn on your computer.

Thanks to advances in multimedia technology, walking along a sandy beach in the Virgin Islands, or hiking along wildlife trails in North Carolina, is becoming part of the curriculum in some elementary schools.

Integrating technology into the classroom environment is becoming a popular educational trend. Multimedia education tools are in big demand by educators, many of whom claim that children retain 70 per cent of information when they learn with interactive materials.

In British Columbia, the Ministry of Education recently announced a $100-million, five-year technology program for schools. The program sets a goal of one computer for every three students at the secondary level and one for every six students at the elementary level.

One innovative program being implemented in eight British Columbia school districts is called 'Teaching and Learning with Computers', or TLC. The program was designed by EduQuest, the educational systems division of IBM Canada Ltd., in consultation with curriculum specialists, noted educators and classroom teachers. It is specifically targeted at students from kindergarten to grade six and includes industry-leading curriculum software.

With TLC, students discover science, nature and the environment simply by interacting with their computer. A simple point and click of the mouse helps them learn critical skills such as mathematics, science, language arts, reading and writing, history and geography.

As a key player in the EduQuest project, IBM Canada will deliver up to $5 million in goods and services over the next 12 to 18 months. Fifty per cent of the Company's corporate support dollars fund educational partnerships, within the 'Caring 4 Kids' program. IBM donates computers and services to school boards throughout Canada to promote math, science and technology to children.

Changing the classroom into an educational centre

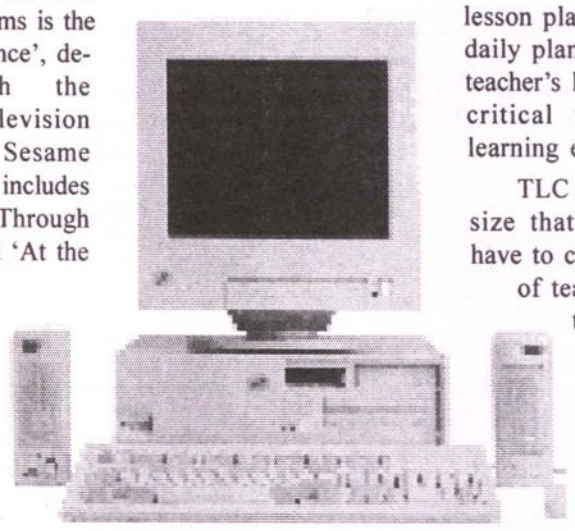
At Westcot Elementary School in West Vancouver, B.C., teachers Tenney Homma, Jenny Murdie and Laura Berardinucci have been using the TLC program since last February. Approximately 75 students in grades one and two

have been able to take advantage of this unique opportunity over the past two years.

"It is wonderful," said Westcot principal Dave Weightman. "The teachers love it, the kids love it, even the parents love it."

TLC incorporates colour graphics, full motion video and synthesized speech output to encourage students to explore, question and learn. The program runs on IBM PC 300 multimedia computers and IBM PC servers. Up to 50 workstations can operate from one local area network (LAN) server.

One of the students' favourite programs is the 'Nature of Science', developed with the Children's Television Network of Sesame Street fame. It includes two modules, 'Through the Woods' and 'At the Seashore', which encourage students' natural curiosity about the environment and guide them to explore and observe new phenomena.



TLC was designed to complement existing classroom materials, such as textbooks, reading, language arts, writing, math and science programs. Students move in small groups to complete specific tasks at various classroom stations. Multimedia field trips are supplemented with library activities and hands-on labs, where students can touch and examine live animals. These multiple learning centres enable the whole group to engage in cooperative learning.

At Westcot Elementary, there are nine multimedia computers, with three in three classrooms. Teachers set up seven science workstations and small groups of students rotate between workstations over a three-week period. For example, while one group works on the CD-ROM, another groups uses the computer database, and a third group is assigned to a lab station with live animals such as hermit crabs and goldfish. The remaining four groups are engaged in integrated studies.

"The TLC program encourages students to work independently and cooperatively," said Westcot teacher Jenny Murdie.

"It's not intimidating at all," said Tenney Homma. "TLC is very user-friendly and works well in a classroom atmosphere. With all the different components — students can do a wide variety of work and experience a multi-sensory approach to learning."

To check their students' progress, teachers regularly quiz students with pop questions. In some of the programs, the computer also records student progress and provides records that students can take home.

Parents are encouraged to come in and learn about these new programs. "One parent even asked if there was a 'parental program' available," said Laura Berardinucci.

The teachers credit TLC's success to the training and ongoing support they've received. TLC is a complete package, and includes a comprehensive Teacher's Guide with lesson plans to help make daily planning easy. The teacher's leadership role is critical for a positive learning environment.

TLC trainers emphasize that teachers don't have to change their style of teaching, but need to know how to manage technology in the classroom. Instead of treating computers simply as big boxes, the TLC trainers help teachers use computers as a natural extension and enrichment of the curriculum.

This type of technology is redefining the entire concept of education. It empowers teachers, who are striving to create a richer, more complex and textured curriculum. With technology in the classroom, teachers' roles shift to those of leaders, facilitators and coaches.

Promoting active learning

"The TLC program was designed to help students learn more effectively, in an interactive and engaging way," said Mike East, General Manager of the EduQuest program. "And the technology gives the teacher a tool that allows them to enhance the way they deliver instruction, encouraging a more dynamic approach to learning."

One of the issues that teachers feel strongly about is a curriculum that is overburdened and fragmented. As students move from grade to grade and subject to subject, their learning process becomes fragmented. The TLC program replaces this approach, encouraging cross-curriculum integration, blending separate subjects into a cohesive approach.

With specialized courseware for each grade level, the program accommodates all learning styles. TLC recognizes that each student has his, or her, own unique way of understanding and processing information, which challenges the traditional school system assumption that everyone learns in a uniform way. ❑

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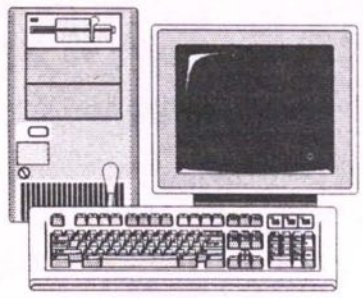

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Frequently Asked Questions

Windows 95 Installation & Setup

(continued from page 18)

already placed a REM before it. You may delete all lines related to the Sound Blaster 16. Smartdrive may also be removed, because Windows 95 provides its own caching file system. Don't forget your mouse driver, because Windows 95 provides automatic windows and MS-DOS Prompt support for the mouse. You'll save a few Ks with just that driver. You can basically figure out what you need and don't need based on what Device Manager reports. Important: If you are loading a video card refresh rate utility from the AUTOEXEC.BAT or CONFIG.SYS, do not remove it. If you are not loading any DOS drivers, then you can remove a couple of other things too, from both your AUTOEXEC.BAT and CONFIG.SYS:

- Files=
- Buffers=
- Stacks=
- Prompt PG (Note: Windows 95 will automatically set the prompt variable to PG)
- Device=IFSHLP.SYS (Note: You can remove this anyways, because it is not needed by Windows 95)
- Set TEMP= (Note: Windows 95 will automatically set the TEMP variable to *\windows directory*\Temp, if none is specified)
- DOS=
- Path= (Note: Windows 95 will automatically set the PATH to *\windows directory*; *\windows directory*\command; *\windows directory*\system, if none is specified)

Editing the CONFIG.SYS is somewhat more difficult than editing the AUTOEXEC.BAT. First off, you have to decide whether you are going to run any memory resident programs from these two files, which depends on what the Device Manager supports and doesn't support. If you are going to run memory resident programs, you will probably want to load them into upper memory area. For that, you will need to keep HIMEM.SYS and EMM386.EXE references in the CONFIG.SYS. If you are not going to load any TSRs from your AUTOEXEC.BAT or CONFIG.SYS, then you can safely remove both HIMEM.SYS and EMM386.EXE references. This will free up memory which Windows 95 can later take advantage of.

If Device Manager does not list support for all of your hardware devices, you can edit out the drivers from your AUTOEXEC.BAT and CONFIG.SYS for which Device Manager does support. Everyone will want to remove their mouse driver, because they alone take a lot of memory, and Windows 95 automatically supports it. Secondly, you will want to remove Smartdrive, unless you have drives running in MS-DOS Compatibility Mode. If Windows detected your network interface card, and provides all of the necessary drivers and protocols to support your network connection, then you can remove all references to your network, unless you explicitly need a certain program running for you network card to work properly. Windows 95 does not provide built-in ANSI viewing functionality, so some users may want to keep the ANSI.SYS driver loaded. The same applies to DOSKEY.COM. Some devices, such as the Ensoniq Soundscape sound card, are currently not supported by

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Windows 95. This means that you will still need to load the DOS drivers, and use the Windows 3.x drivers for Windows 95 functionality. Some users report problems using CD-ROM drives, such as Mitsumi's, when they are attached to the Soundscape. For this configuration, you will need to use the DOS drivers(and thus HIMEM and EMM386 to load them high) because the on-board IDE CD-ROM interface is not supported by Windows 95. Keep in mind that Microsoft does not write the drivers for these peripherals, the respective companies are responsible for them. In this case, Mitsumi is not at fault, but in fact, it is Ensoniq. The same goes for SCSI drives. If your SCSI controller is not supported by Windows 95, then Windows 95 will not detect your SCSI devices. For instance, the NCS-250 SCSI-1 controller included with the popular Chinon CDS-535 drive is not supported by Windows 95, thus you will need to use the DOS drivers if you want to have CD-ROM functionality. DOS real-mode drivers are much slower than protected-mode drivers, which are included with Windows 95. Most of the currently unsupported devices have Windows 95 device drivers in the works.

Why do I get Protection Faults and Blue Screen crashes?

With the many thousands of combinations of hardware and software possible to have on a system, it was impossible for Microsoft to test Windows 95 with every different combination. Thus, there are some hardware and software devices which will conflict with Windows 95, and bring it to its knees. For a list of some of the programs which can cause trouble, see the PROGRAMS.TXT file which Windows 95 placed in the Windows directory. There are a few things that you can do about this. First off, follow the section titled "Can I safely delete my AUTOEXEC.BAT and CONFIG.SYS?". Make sure that you remove every driver that you don't need, or that you think will cause problems with Windows 95. Secondly, you can try lowering the acceleration rate of your video card. To do this:

- Right click on My Computer
- Click on Properties
- Click on the Performance tab
- Click on the Graphics button
- Lower the acceleration setting down one notch

While this provides a solution in many cases, it does not work for all. Many beta testers and Previewers, who have used a pre-release build of Windows 95, installed the released version of Windows 95 atop the older version. This can, and most often does, retain the bugs from the older version, and in some cases creates new ones. The retail version of Windows 95 should never be installed over an older build of Windows 95. Many believe that Windows 95 shouldn't even be installed over Windows 3.x, but instead, clean installed. A clean installation is where Windows 95 is installed into an empty directory. To clean install: Boot to DOS 6.x, deltree the current windows directory, have Windows 3.x Disk 1 ready(only if you're running the upgrade version of Windows 95), and install Windows 95. The Upgrade version of Windows 95 is exactly the same as the full version, except that the upgrade requires proof of a previous version of Windows. This can be Windows 3.x Disk 1. If you did install over Windows 3.x, Windows 95 retained all of the settings in the system.ini and win.ini. While the win.ini shouldn't cause any problems, the system.ini could be cluttered with "problem" drivers in the [386Enh] section. Browse this section for "device=*drivername*.386" entries. While most of these drivers will not cause problems, some of them are not necessary, either because they lose their functionality under Windows 95, or Windows 95 automatically performs the same job that the driver does. For instance, the vshare.386 driver is automatically installed by many popular programs, including Microsoft Office. Windows 95 provides the same functionality as vshare.386, which is to provide file sharing capabilities, so loading vshare.386 from the system.ini is redundant, slows down the bootup process, and takes up memory. This is just one example of a driver which is safe to remove. Another is vfind*xx*.386, which is added by MS-DOS 6.x. This driver was needed by the Windows Anti-Virus, Backup, and File-Manager add-in programs. You can safely remove this from your system.ini.

Why does Setup hang on Disk 2?

This problem can be caused by either of the following situations:

- Bad disks. To test for bad disks, follow these steps:

1. Copy the EXTRACT.EXE file from Disk 1 to the root directory of drive C. To do so, type the following line at the command prompt:

copy a:\extract.exe c:\

2. Create a temporary directory on your hard disk by typing the following line at the command prompt:

md c:\win95tmp

(continue on page 45)

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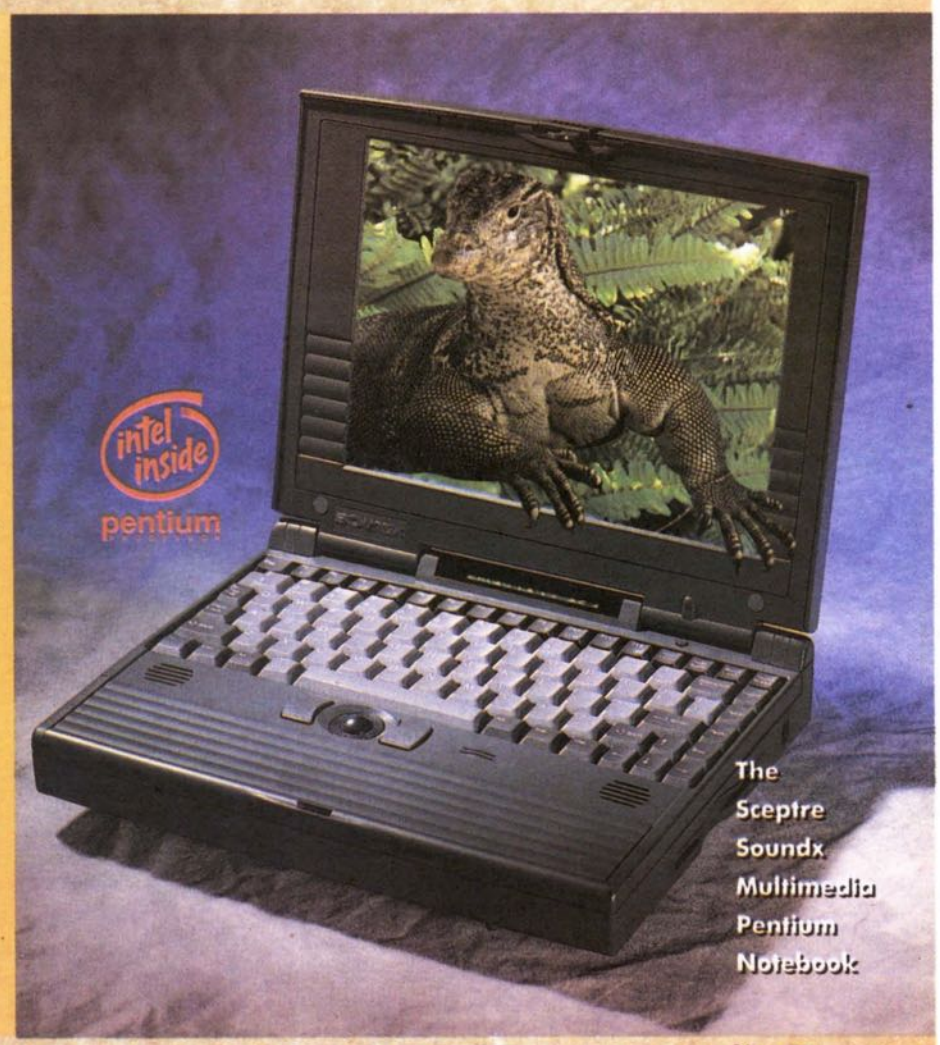

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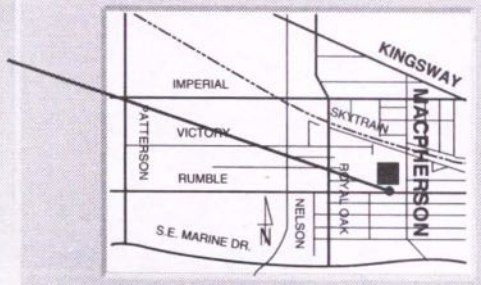

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Are you Ready to Upgrade to Windows 95?

Alan Zisman

By now, you're probably sick and tired of all the hype surrounding Windows 95. Nevertheless, you may be wanting to move your computer to this operating system. Are you ready?

Before trying, take a little time to prepare your system for the upgrade and save yourself time and frustration later.

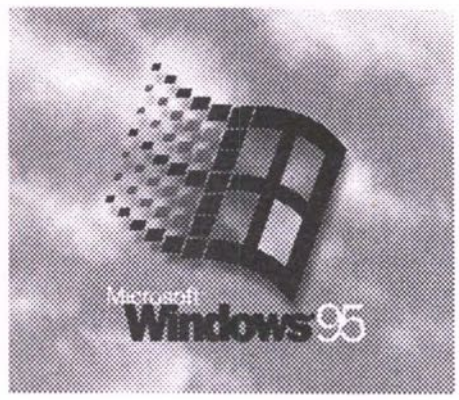
— Do you have enough ram and hard drive space? Windows 95 claims to need a minimum of 4 megs, but performance is so poor on machines with that amount of ram, that I'd suggest you put off upgrading until you have a system with 8 megs or more.

You'll need at least 50 megs of free hard drive space. If that's all you have, you may think about getting a new hard drive— they're one computer component that has dropped drastically in price. New Windows 95 applications will take up more space than their older equivalents.

There are all sorts of rumours about what sort of CPU you need to run Windows 95— some people claim it really needs a Pentium or a high-end 486.

Not true.

Windows 95 will run at about the same speed as Windows 3.1 on a 386-DX, if you have at least 8 megs of ram. An 8 meg 386-33 will perform much better than a 486 or Pentium with 4 megs.



— Run a virus check... some users are finding that they had viruses lurking on their computers, which crash the Win95 installation somewhere around disk 2. Even if you're installing from the CD version, check for viruses first — Win95 doesn't include a virus check utility, the way DOS 5 or 6 did.

— Simplify your system. If you're using a Windows shell program, such as Norton Desktop, PC Tools, Dashboard, or some other, go back to Program Manager. (You do this by checking your Windows SYSTEM.INI file for a line starting "SHELL=...", and editing it to read "SHELL=PROGMAN.EXE").

If you are running QEMM in your CONFIG.SYS, go back to the DOS defaults, HIMEM.SYS and EMM386.EXE.

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You can always go back to using QEMM later, (if you have a recent enough version)... but some of its advanced features, such as Stealth or DOSUP will no longer work. And you may find you no longer need QEMM to run DOS programs, such as games, under Win95.

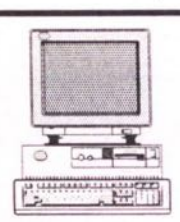
— Think about your other hardware. Windows 95 supports more video cards, sound cards, printers, CD-ROM's, and other peripherals, right out of the box, than any other PC operating system... but it doesn't support everything. In many cases, there are simple workarounds— your sound card may work as if it was a Sound Blaster, your printer may emulate an HP LaserJet model. In other cases, you may be able to run your old DOS or Windows drivers.

Despite this, some peripherals simply don't work with Windows 95— at least not until the manufacturers come up with Win95 drivers. Win95 doesn't include any scanner drivers. My HP Scanjet 2C scanner, however, works fine with the old DOS drivers. But Microtek scanners don't seem to work— not even with their old Windows drivers. Similarly, there are no drivers included for digitizing tablets.

Microsoft has published a hardware compatibility-list; it can be obtained from their internet site: http://www.microsoft.com, or from other sources.

— CD or floppy? If you have a CD drive, that's the way to go. It's much quicker and easier to install from a single CD disk than from a dozen or so floppy disks. As well, the CD as a bunch of extras not found on the floppies— some fluff, like sound schemes, video clips, and promos of other Microsoft products. But also some useful utilities— LFNBK.EXE for using older backup programs with Win95's long file names, SLIP drivers for the Internet, QuickView to look at data files without opening their applications, and more. And the CD includes the full text of the Win95 Resource Kit— otherwise a $49 book. The printed documentation that comes in the box can mercifully be described as brief— if you want any technically-oriented information, you want the Resource Kit.

— As with most applications, you have a choice of Minimal, Typical, or Custom installation... Custom asks the most questions, but gives the user the most flexibility— you may want to choose it. Typical is a safe choice; it doesn't install everything, but you can use the Control Panel to add anything that you later discover you want. (For example, the Typical option doesn't install the



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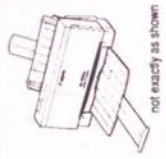
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files needed to connect to the Internet).

— If you like, you can choose, during the installation to SAVE SYSTEM SETTINGS. This allows you to get back your former DOS and Windows 3, if you decide Windows 95 is not for you... by simply clicking on the Uninstall option in Control Panel. It really works, but takes an extra 6 megs of drive space... and is only available if you choose this option during setup.

For even more flexibility, if you have a lot of hard drive space, you can keep both your old DOS/WINDOWS and Windows 95, and choose at boot-up which one to run. This could be handy if you suspect that some of your software or hardware will not support Windows 95.

To do this, choose, during setup, to install Windows 95 into a different directory from your current Windows. This has some real advantages, in any case... a 'clean' install avoids junk files and system settings left over from old Windows software, and can improve performance, in some cases, dramatically.

Unfortunately, installing Win95 into a new directory, means you have to reinstall all your software, fonts, etc. This is tedious, but lets you decide whether you really need everything you've accumulated. A good chance for a computer-housecleaning.

Afterwards, you need one more trick to give your system dual-boot capability. The DOS system file, MSDOS.SYS, has gotten a new life under Win95... it's now a text, configuration file, and has a long list of possible settings that can be altered by the user.

As before, this file is hidden, to prevent unauthorized tampering.

You can right click on it in Win 95's Explorer, and choose Properties to change its attributes, or from a DOS prompt, type:

ATTRIB -H -R -S MSDOS.SYS

and then open it in a text editor such as Windows Notepad or DOS Edit.

You'll find it resembles a short INI file, with a few sections in [brackets], followed by settings that are either turned on (=1) or off (=0).

Find the section labeled [options] and add a line reading

BootMulti=1

to enable dual boot. (You can also change the line that currently reads 'BootGui=1' to'BootGui=0' if you want to boot to a DOS prompt instead of all the way to Win95).

From your DOS prompt, type

Use Explorer or the DOS command ATTRIB +H +R +S MSDOS.SYS to rehide MSDOS.SYS... when you reboot, when you see the text message "STARTING WINDOWS 95", if you press F4, you will boot to your old DOS. If you press F8, you'll get a menu with a variety of boot-up choices.

(Don't delete the AUTOEXEC.DOS, CONFIG.DOS, COMMAND.DOS, MSDOS.DOS, and IO.DOS files— these are the old system files you need to boot

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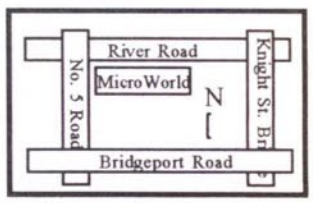

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to the old DOS. And when you're in your old DOS, don't delete *.W40— these are your Win 95 equivalents).

— Let Windows 95 control your swapfile. Many Windows 3.1 users discovered that they could improve performance by using a Permanent Swapfile. But then, most realized that Windows asked for far too big a chunk of their hard drive for this swapfile, and that more wasn't better— giving Windows 3.1 all that it asked for could actually slow your system down, besides tying up far too much of your hard drive.

Win95 does things differently... it creates a dynamic swapfile, that grows and shrinks as needed. You can change this, and force it to use a fixed-size swapfile, by fiddling with Control Panel's System/Performance settings. Don't do it. Windows 95 is much smarter about this than the older versions— and in almost all cases, fiddling with its default swapfile hurts performance.

— Don't use your old DOS or Windows disk utilities after installing Win95. They aren't compatible with the new Long File Names. If you really feel like you MUST run one of these programs, get a copy of the LFNBK.EXE utility first (it's on the Win95 CD, or available for download), and use it to back up the long file names, before running your disk utility. Windows 95 includes usable versions of SCANDISK and DEFRAG (along with a so-so backup program)— use these instead of older utilities, or upgrade to Win95-compatible versions.

— Find the Easter Egg. Many programs include some cute, hidden routine, often showing the 'credits'— who worked on the software. To see the names of the Win95 development team, try this trick:

Right click on an empty spot of your Win95 desktop. A menu will pop up; choose New, and then Folder. A new folder will be created on the desktop, with the name "New Folder" selected, waiting for you to rename it.

Type (exactly as written):

and now, the moment you've all been waiting for

then, right-click on the folder, choose Rename, and rename it:

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Right-click again, again choosing Rename, and type:

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Double Click on the folder icon to see the animated credits, complete with sound.

Windows 95 is a much more capable operating system than previous versions of DOS and Windows. With the huge amount of software and hardware running, its amazing that it manages to be so compatible with so many systems... still, it isn't perfect. Some care and attention before and during install can help save a lot of grief later. ❑

About the author: ***Alan Zisman*** *is associate editor, he can be reached at e-mail: alan_zisman @computer-player.com.*

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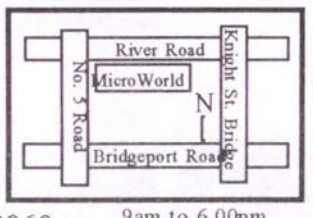

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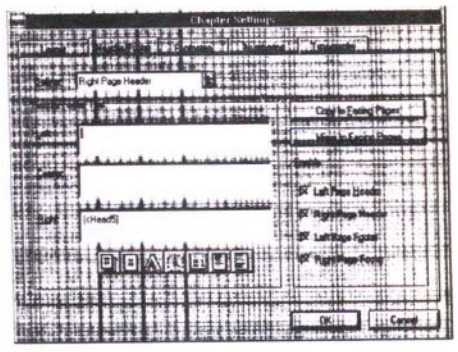
Desktop Publishing Tips:

Corel VENTURA 5.0

Swee-Sim Tan

Corel VENTURA has a number of automated functions for preparing long documents, and Version 5 dialog boxes greatly simplify the process. Among these are indexing, chapter, page and caption numbering, frame anchors, and header and footer elements. This month we look at how to display section headings in a header or footer.

Open Corel Ventura and start a new document. Load a text file on the base page. The text file cannot be loaded in frames. Before continuing, if the Tags roll-up is currently on the screen, you must close it. (Double-click its control menu—don't just roll it up.)



Use the Tagged text tool to click in a section heading. Click the right mouse button and click **Add New Tag**. Create a tag and select a format for the heading. Format all the section headings with this tag.

Select **Chapter Settings** from the **Layout** menu. Click the **Header/Footer** button. Select **Define: Right Page Header**. Click in the **Right** field to place the heading at the right margin. Click the **First Match** icon. The tags roll-up will display (unless you didn't close it before entering this dialog box—if that is the case, close the Chapter Settings dialog box and start over). Double-click the section heading tag in the tag list.

To put the header on the opposite page, click **Mirror to Facing Pages**. Click **Enable Right Page Header** and **Enable Left Page Header**.

The First Match option will find the first paragraph on the page with the selected tag name. The Last Match option finds the last paragraph on the page with the selected tag name.

Select **Define: Right Page Footer**. Click in the **Right** field and click the **Page Number** icon. This places an automatic page number at the bottom of the page. Click **Mirror to Facing Pages**. Click **Enable Right Page Footer** and **Enable Left Page Footer**.

You can also insert the date and time in headers and footers. Click the clock button for the time.

Click the calendar button to display the **Date and Time** dialog box. Choose a format from the list, or click **Custom** to enter your own format. Click in the **Format String**. Enter **M** for month, **d** for day, **y** for year, **h** for hour, **m** for minutes, **s** for seconds, **a** for morning/afternoon. Enter up to four of each character (e.g. MMMM) for various versions of abbreviations. The **Sample** box shows how the date and time will be printed. Click **OK**.

Insert any other text you want in the header and footer fields. Click **OK** when done.❑

About the author: ***Swee-Sim Tan*** *is a freelance graphic artist and desktop publisher who provides training and consultation in CorelDRAW, Corel PHOTO-PAINT, Corel VENTURA, Harvard Graphics, PageMaker, and WordPerfect. If you are using CorelDRAW, Corel PHOTO-PAINT, CorelTRACE, or Corel VENTURA, call for information about purchasing How-To booklets and a collection of desktop publishing tips. Telephone: 254-5940.*

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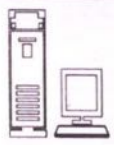

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Rick McLaughlin

Only a short while ago, the only RAM question we had was how much we wanted for our systems. "Will that be 4MB, 8MB, 16MB or 32MB for your computer?" was a typical question from the salesperson. Anyway those SIMM panels got knocked right off the technological drawing board. Some engineer decided to resize the chip from a 30 pin chip to a longer 72 pin chip. So, what the heck has that to do with you? Well, have you tried upgrading your system lately? Your old RAM (commonly call SIMM Panels) ***will not fit*** in the newer motherboards. These boards are designed to accept 72 pin SIMM panels only. All those 30 pin SIMMs that you paid so dearly for, well if you're lucky your computer dealer would give you a buy back, but most people didn't even get that. They're simply told that they were outdated and are no longer of any use.

I figure the number of 30 pin SIMM chips in Canadian computers must range somewhere in the millions. If we converted that to money the figure would still be in the millions. So what do we do??? Here's the answer:

About eight months ago a few industrious fellows developed a 72 pin converter for the 30 pin chips to fit into. The problem is not many people know about it.

If you had any idea of how much it costs to produce a SIMM chip, you would probably do a double flip in a fit of rage, especially when you know what you are paying for them. The question remains how do you retain your investment in the RAM? Here's what we can do:

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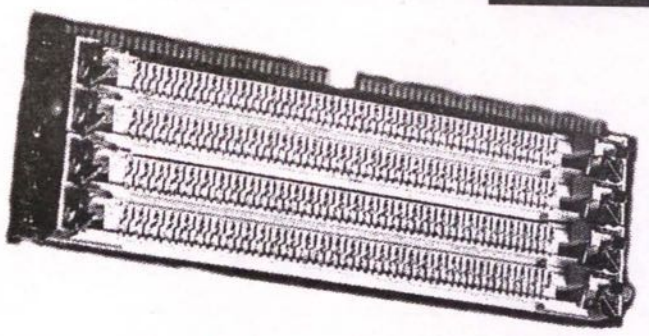

If you have a computer with 30 pin SIMM panels in it and they are 1MB or larger and you want to upgrade your motherboard, here's what you do. First, go to your computer dealer and ask them if they have the 30 to 72 pin converters. If they don't, then tell them you would like a rebate for your 30 pin SIMM chips. Do not take no for an answer. There is no reason that they can't accommodate your request. If they tell you they haven't heard of them or don't know where to get them, then show them this article or have them call me.

I have personally tested four different types of converters and they all performed flawlessly. You won't lose any speed or performance with them and you will save hundreds of dollars.

Answers on the 30 to 72 Pin SIMM Converter

What's the difference ?

Other than you'll save hundreds of dollars, there is no difference. Your 30 pin RAM chips will run just as fast and smooth as they did, with the exception that they are now functioning as 72 pin chips.

The SIMM Converter Panels have been put through grinding tests and have been found to function perfectly in every case. With having the choice of tin plated pinouts, you can now use them for proprietary RAM in some computers such as Compaq, IBM and other brand names.

What does a SIMM Converter do?

SIMM Converter converts your old 30 pin SIMMs to 72 pin SIMMs for use in newer motherboard designs. Simply insert four of your 30 pin SIMMs into the SIMM Converter's sockets.

Who can use a SIMM Converter?

Anyone who has at least four 30 pin SIMM memory modules of the same capacity and a computer or printer that utilizes standard 72 pin SIMMs.

What types of memory will the SIMM Converter convert?

The SIMM Converter will convert all 30 pin SIMM memory. However, there may be some limitations of your 30 pin memory that will limit it's usefulness in your new system. These issues are addressed here.

SIMM Converter will convert any speed SIMM memory that you might have. However, the new system boards typically use 60, 70 and 80 nanosecond (ns) memory. Your system speed is limited by the slowest memory chips in your computer. This is true of ALL RAM and memory converters on the market. Generally, the negative consequence of using some slower memory in your computer is far outweighed by the greatly increased speed you will experience by having more memory in your system. 100 ns and slower memory can still be converted but are not recommended.

SIMM Converter will convert all configurations of SIMMs. Typical configurations are by 8 (x8, i.e. non-parity memory) and by 9 (x9 - parity memory). Other types include by 3 (x3) and by 4 (x4 - non parity) memory. Whatever type you have, you should have four of the same capacity SIMMs.

About the author: ***Rick McLaughlin*** *is a computer consultant in Vancouver, he can be reached at (604) 521-6831.*

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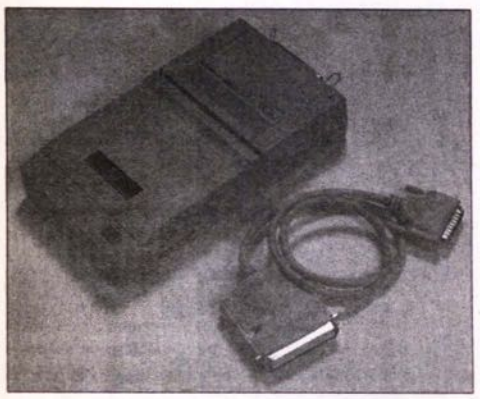

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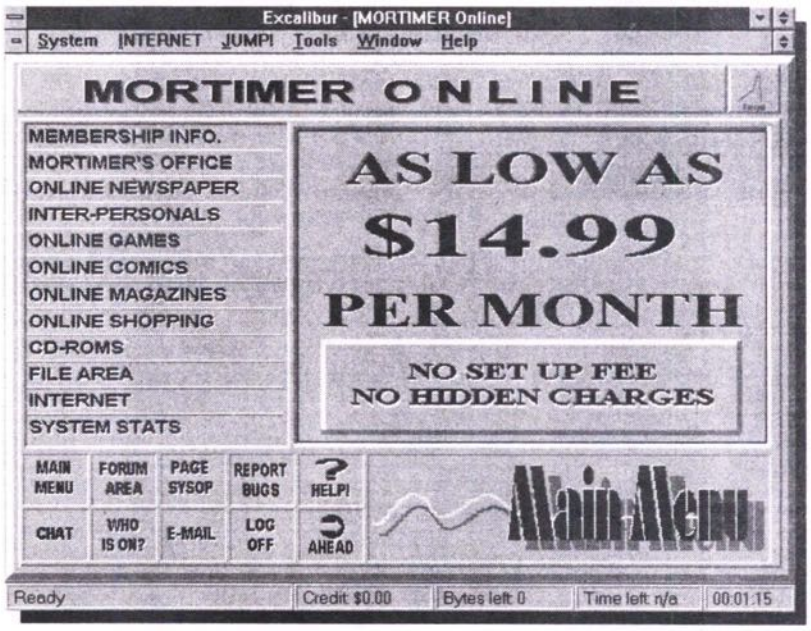

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don't get left hanging

J.D. Miller

A colleague of mine recently told me his dismay about getting a page on the Web. He called ten different Web companies and individuals who advertise themselves as Web publishers and received only three return calls.

This type of response is typical of the latest developing technology known as the World Wide Web where almost anyone can learn how to build Web pages. Of the three responses he received, two offered him extremely low rates for Web publishing which left him interested yet skeptical of what he would receive. The third company stated that they did not handle the type of Web project he was proposing because they only build Web sites for corporations. He only wanted a simple Web site for a collective of artists.

For companies and individuals who want to utilize the advantages that an on-line multimedia environment like the World Wide Web has to offer, getting on the Web can prove to be more complicated than the simple point and click interface of the browsers used to view the Web. Many people adopt the attitude or have been told that programming Web sites is easy saying, "anybody can do HTML and make Web pages."

My response to this adage is simple. With the advent of DTP software, anyone could produce brochures and create their own printed materials and they do. However, not everyone can do four color separations and well designed layout or graphics let alone have a good working knowledge of the printing industry and the complexities of offset presses and printing.

Finding a good Web publisher who can offer all the advantages you might need is good when you know what you want. Finding a good Web publisher when you know very little about the Internet is like placing the lamb before the wolves. There are a lot of issues that need to be addressed before you launch your company into cyberspace and questions of which you are not yet aware that need answering. One thing is for sure - you don't want to be left just hanging in cyberspace.

Regardless of who you choose to create and publish your Web site, don't be afraid to ask questions. If they are not willing to take the time to explain things to you and answer your "newbie" questions, they are probably not the ones you want designing and publishing your Web pages. For those who want to get their company on the Web there are three areas of concern where the Internet initiate would be well prepared if they could ask a few simple questions.

Web Needs:

Why do you want to be on the Web? What do you hope to achieve from having a Web presence or putting together a Web event? Are you interested in on-line product distribution or corporate image and networking?

Determine first what you would like to achieve with your Web site before you talk to anyone. Once you know what you would like to accomplish, a Web publisher can help you meet your objectives and you can keep your consulting costs to a minimum. Good publishers include "needs analysis" and conceptual design in meeting your needs and will include it in their pricing. Some publishers have additional charges for their time and ideas and price everything separately. Others will ask you what you mean when you ask them about these things.

Web Design:

With the advent of color backgrounds, text and textures, Web pages can now incorporate much of the color and layout available in conventional print design. You want your pages to stand out from the rest.

Conceptual design of your Web site is as important as the actual information you are about to place in front of the world. Are your pages designed to deliver a creative approach to displaying your company information or are they just another page among pages? Would you return to your own page once you had come across it yourself on the Net? A good example of conceptual design is Mulvaney's Restaurant. When you visit Mulvaney's Restaurant (www.van.com/Mulvaneys) it's as if you're looking at the

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in cyberspace

menu and as you make your selections you link to other pages in their Web site. There are costs to consider when designing your site in this manner, however keep in mind that people are much more likely to return to your site and pass your URL along to someone else when you use these advantages than if they were looking at a typical grey Web page.

Again, make sure to ask a lot of questions. Do the quotes you're receiving include these advantages in the Web presentation? How much is it for your publisher to come up with these approaches or is it included in the price? Ask for an item by item breakdown of costs. Is the textured background extra or is it included in the costs of your Web site? Would it cost more to add another image or page? Once you've determined your Web needs then you are prepared to make decisions regarding what you actually can accomplish on the Web with your site and what your budget will allow.

Technical Concerns:

So now you know exactly what you want in your Web site and how it's going to look. Where are you going to put it? Web pages are stored on computer hard drives (servers) which are connected to the Internet for people to access them. Every Internet service provider (ISP) has a Web server where you can "hang" your Web pages. If your Web publisher is not a service provider, and it is not uncommon for many not to be an ISP, then you'll need to find a home for them. Your costs may include everything from putting your pages on their server to monthly fees for having a domain name (your Internet address). Generally, there is a monthly leasing fee for the space you're taking up on the server and some service providers charge for how many people access your Web pages (bandwidth). It may be extremely cheap to put your pages on a particular server but their connection to the Internet may not be of the speed you require or like. The speed of their connection to the Internet is one of the determining factors of how long it takes for your pages to drop down in front of the user. It may be better to choose a faster connection than to choose a cheaper price. Ask your Web publisher for advice if you know little about connectivity and access. Make sure you get a complete cost breakdown of all their Web services and shop around.

So now you have an URL

You've asked alot of questions and learned alot about the World Wide Web. You decided why you want a Web site, created a concept for your Web site and now you have it up on the Web for all to see. You even have an URL (uniform resource locator)! But who is going to see your Web site and how do they find it? Next month we will look at what to do with your Web site once you've got one: How people find your Web site and how you can keep them coming back. ❑

About the author: ***J. D. Miller*** *is with Vancouver Internet Publishing, he can be reached by e-mail: je3de.van.com*

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Two Books From the Pros

- Reviews of The SLIP/PPP Connection by Paul Gilster and The Non-Designer's Design Book by Robin Williams

Alan Zisman

There's something to be said for books by people who've become experts in a field... sharing the benefits of their experience.

And while people new to computing often think that it's a single field of expertise, it quickly becomes apparent that there are many areas of specialty; it's rare that a page designer is also a C++ programmer, for example.

Both of these books are the latest offerings from their authors, each, just one of a long string of well-written and informative volumes.

One is another book aiming to make the Internet accessible, the other is, as its title suggests, hoping to give basic principles of page design and typography to "the visual novice".

Some users will find only one interesting— feel free to skip to that section of the review; others, particularly with the merger of the Internet and graphic design that's implicit in the boomlet in World Wide Web pages, may find both of use.

The SLIP/PPP Connection

This is the fourth book by Paul Gilster that I've had for review in two years or so— he's turned himself into a one-person library, all focusing on the Internet.

While all are informative and well-written, they seem to follow Gilster's personal on-line odyssey.

The first two volumes, The Internet Navigator, and Finding It on the Internet, use the traditional tools that have been evolved by Net pioneers for twenty years or so... Unix text-based shell programs.

Even with a Mac or Windows PC, these users connected to the Net as a dumb terminal hooked onto their Internet provider, and typed commands at a Unix command line. There is great power available in this approach, but at a cost of ease-of-use.

More recently, with the Mosaic Navigator, Gilster discovered graphical browsing on the World Wide Web, which has led to the explosion of interest and activity on the Net. Finally, in the present volume, Gilster explores the new range of graphically-oriented programs available, for both the Mac and PC platforms, focusing on free and shareware programs.

He starts off looking at setting up the connection itself— what is SLIP/PPP and how is it different from a traditional shell connection. Separate chapters focus on configuring the shareware Trumpet TCP/IP for Windows, and using Mac TCP/IP and InterSLIP for the Mac.

Then he examines the range of Internet services and easily available software, looking at an example program for each platform... ftp, mail, telnet, archie and wais searches, gopher, and usenet. Finally, he examines the Web, looking at several of the popular browsers— Mosaic, Netscape, (for both Windows and the Mac), Cello, and WinWeb.

Finally, he gives a short peek at TIA and SlipKnot, two strategies that emulate a SLIP/PPP connection on a standard shell connection.

As with all Gilster's Internet volumes, this one maintains a good compromise between the technical and the friendly— I find it a comfortable read, with a good level of information for most users. Inevitably, this 1995 volume was actually researched and written late last year and early this year— some of the software has been replaced with later revisions, and for many people, Trumpet TCP/IP will soon be replaced with the Dial-Up-Networking built into Windows 95. Despite this, The SLIP/PPP Connection will prove useful and timely for at least the next year— which is about the shelf life of any Internet volume these days.

I can recommend this for people who are comfortable using Macs or Windows who are new to the Net, and especially to anyone who has to work with users on both platforms.

The Non-Designer's Design Book

Like Paul Gilster, Robin Williams (no, not THAT Robin Williams) has written a whole series of books, often small books, at a reasonable price, aimed at new users.

Her "The LITTLE MAC BOOK" is my favorite introduction to the computer that, despite its image, still needs an introduction. "JARGON" aims at helping users wade through at least some of the techno-babble and acronyms that often help make a new user to computers feel like an outsider.

And "The MAC IS NOT A TYPEWRITER", and a companion volume for PC-users spelled out beginning typographical principles, and how to put them into practice... ways that proportional typefaces allow computer users to go beyond the limitations of the typewriter, on which some many of us learned to use a keyboard.

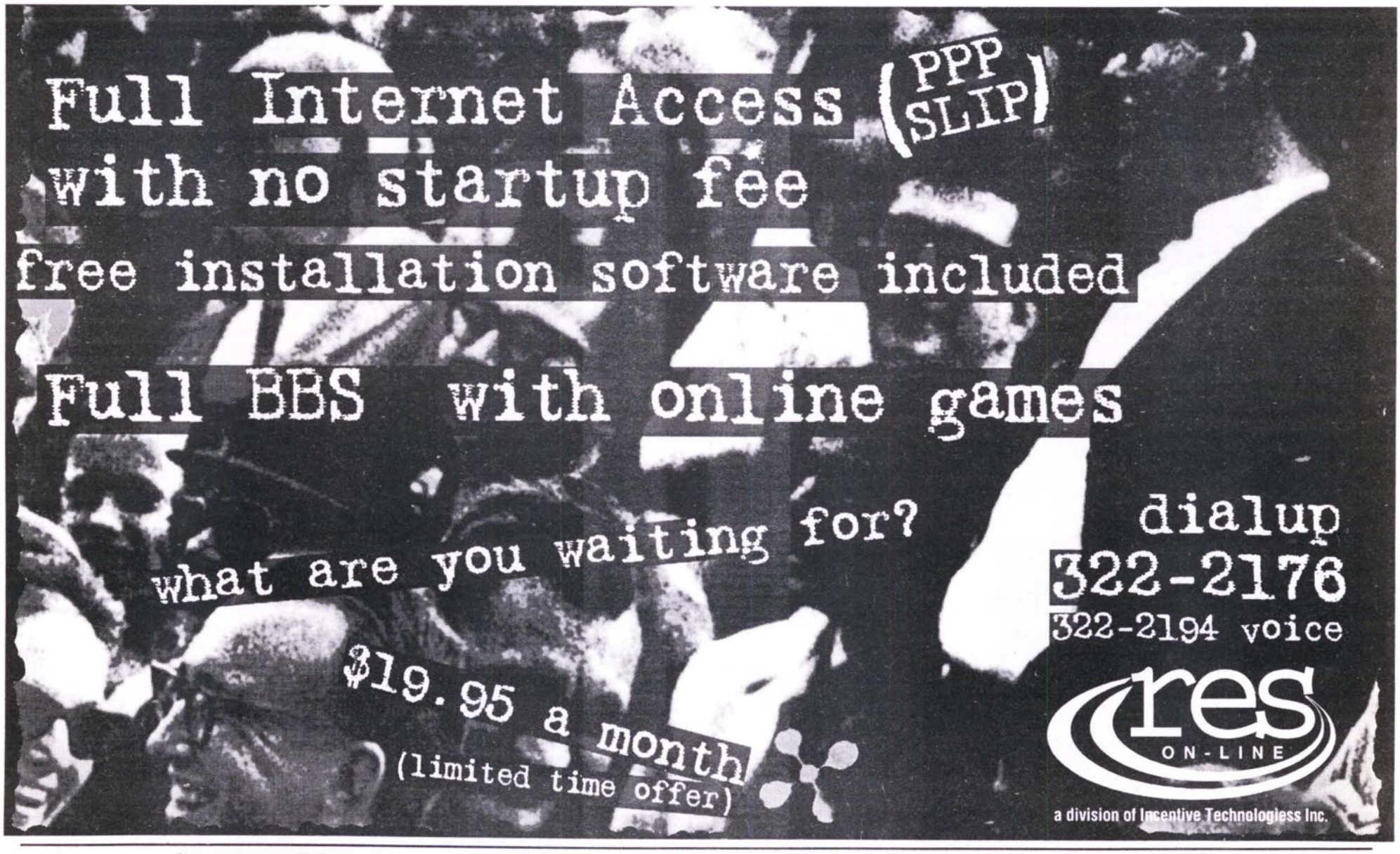
This 1994 book is a slim and attractive volume. It is carrying on in the tradition of the TYPEWRITER books, but with more focus on "design and typographic principles for the visual novice", and less on specific computer platforms.

Computers, and graphical interfaces in particular, along with reasonable-priced inkjet and laser printers, have given every computer user the power to create complicated page ☞

Book Information

Title: The SLIP/PPP Connection
by Paul Gilster (c) 1995
John Wiley & Sons
ISBN 0-471-11712-9
List price: $32.50

Title: The Non-Designer's Design Book
by Robin Williams (c) 1994
Peachpit Press
ISBN # 1-56609-149-4
List price: $20.95



Frequently Asked Questions

Windows 95 Installation & Setup

(continued from page 33)

3. With Disk 1 in drive A, change to that drive and copy all the files to the new directory you created in step 2 by typing the following lines (press ENTER after each line):

a:copy *.* c:\win95tmp

4 With Disk 2 in drive A, extract PRECOPY2.CAB and WIN95_02.CAB to the directory you created in step 2:

extract /e precopy2.cab /l c:\win95tmp

extract /e win95_02.cab /l c:\win95tmp

NOTE: You must use the EXTRACT command on all the disks except Disk 1, due to their format.

If you cannot copy or extract these files, you may need replacement disks.

5. Run Setup from the directory you created in step 2 rather than from Disk 1:

c:cd\win95tmp

setup

• Change-line support is not working properly. If Setup cannot read Disk 2 after it reads Disk 1, try the following steps:

1 Add the appropriate line to the CONFIG.SYS file:

For a 1.44-MB drive A:

DRIVPARM=/d:0 /f:7

For a 1.44-MB drive B:

DRIVPARM=/d:1 /f:7

NOTE: Because the /C switch is not included in these lines, MS-DOS is instructed to not depend on change-line support. If the CONFIG.SYS file contains a DRIVER.SYS line, disable it by placing the REM command at the beginning of the line.

2. Restart the computer and run Setup again.

If Setup works correctly, change-line support is not functioning properly. Leave the DRIVPARM statement in the CONFIG.SYS file.

If Setup still does not work correctly, remove the DRIVPARM statement from the CONFIG.SYS file and consult your computer manufacturer to make sure that the computer's CMOS settings are correct.

• Virus

Microsoft Corp. says some buyers of its new Windows 95 are finding the version of the operating system that installs from floppy diskette can be ruined by a virus on their machines. However, Win95 itself does not carry a virus, the firm adds.

Microsoft says, during installation, a computer transfers information that the customer has typed in and a custom ID number to the second diskette. A virus can move to the diskette during that process.

Rogers Weed, group product manager for Windows 95, said, "Unfortunately, there's not just one virus that spreads this way." He added, that viruses do not affect the CD-ROM version of Windows 95 because data can only be read from a compact disc, not written to it.

Microsoft says it will replace the first two diskettes of Windows 95 for people who encounter the problem.

Weed suggested people run a virus check of their computer before installing the program. (That warning also is on the stickers of the Windows 95 diskettes.) ❑

designs with lots of fonts, justified type, inset graphics, and more.

And that power is, too often, the power to create typographical monsters... pages that send shivers up the backs of printers and graphics professionals... and without wanting to sound snobbish, there are established principles of good design. Unfortunately, computer software manuals and tutorials show user how to use these programs, but now how to use them tastefully or effectively.

And that's the focus of Williams' book— it avoids issues specific to individual computers or individual programs, but looks at how to design pages that work— and that look good. She examines principles of design: proximity, alignment, repetition, and contrast, and shows how to use them (and when to break the rules). She shows how type, rules, graphics, and other page elements can be put together using these principles. Each chapter includes exercises, and self-quizzes.

There's a good section on type— classifying typefaces, beyond the common serif and sans serif, and shows how and when different typefaces can be tastefully mixed, going beyond the by-now cliched advice of "One serif and one sans serif face per page".

This short book (144 pages) is attractively designed— I suppose, given its topic, it would have to stand up as a sort of model, and a joy to read. It should be required of anyone with a graphical word processor or desktop publishing program. ❑

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Mortimer On-Line does Windows like no other

Jason Shack

Vancouver based Mortimer On-line is an internet service provider. They have many features on the system including interactive on-line games, an on-line shopping mall, plenty of files for downloading, an on-line teleconference, as well as the Internet.

Mortimer runs under Windows, and requires Excalibur for Windows, available for download on your first call (using your normal communications software, such as Telix or Procomm). This program gives you a graphical interface that far exceeds the traditional ANSI of other on-line services.

The system has 9 interactive on-line games, including Checkers and Scrabble. Both are multi-player, allowing users on-line to play in a real-time environment.

Mortimer provides 12 CD-ROMs for its subscribing users, including Simtel and Giga Windows. With no file ratios, you can download all you want.

Probably the most popular feature of Mortimer is the Internet. Mortimer gives you a free e-mail account with your subscription. As well as e-mail, Mortimer provides access to other aspects of the Internet, such as the World Wide Web (WWW), the Internet Relay Chat (IRC), File Transfer Protocol (FTP) and newsgroups. Mortimer provides all the necessary software you need to access the Internet in an organized and easy to use format.

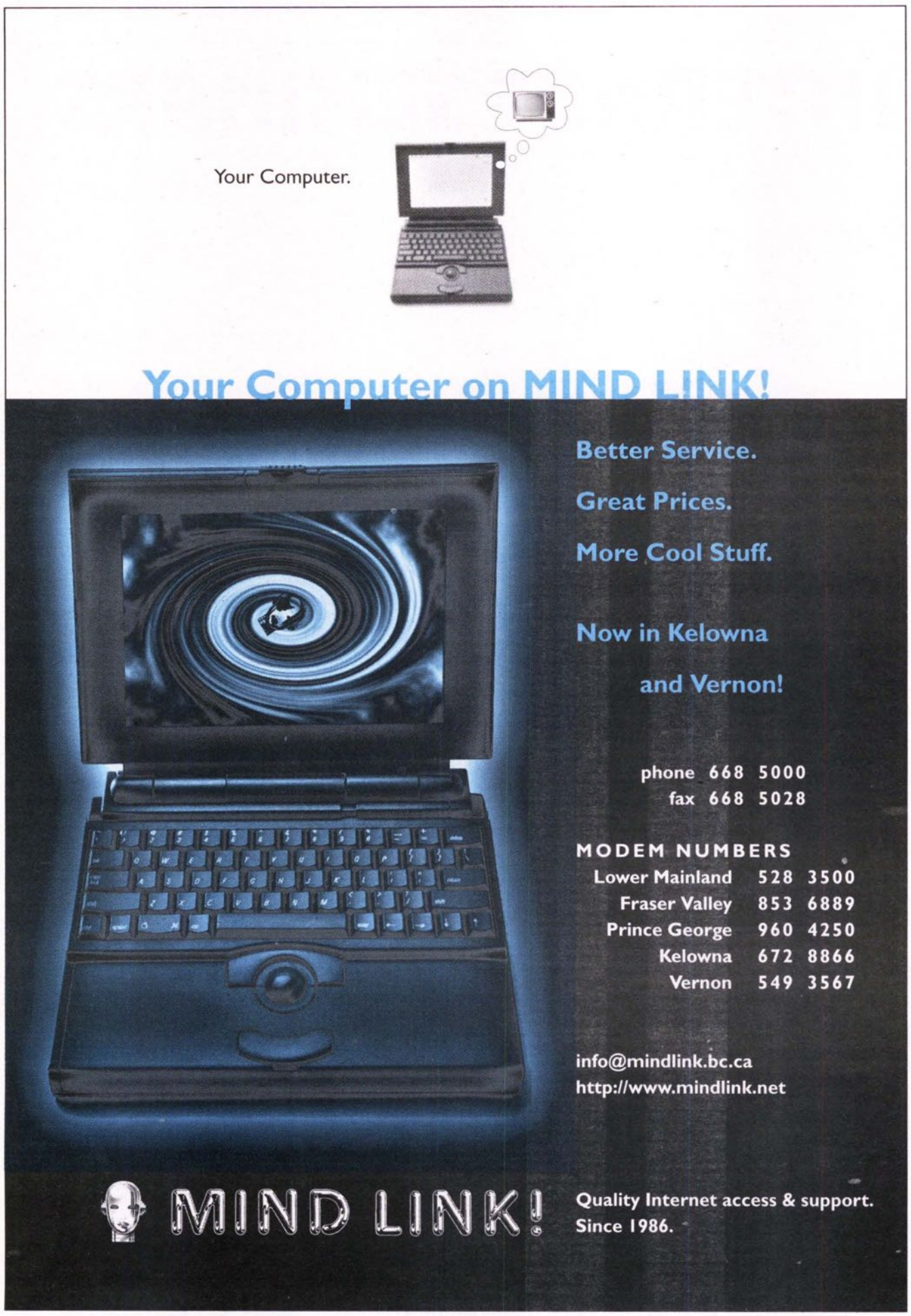
Another impressive feature of Mortimer is the ability to do many things at once. You can be on the WWW, for example, and switch back to the BBS and send a message to someone, download a file, play an on-line game, or all of the above.

For more information, contact Mortimer at (604) 294-2995 or modem (604) 294-2955, author Jason Shack is a member of Mortimer, he can be reached at mulder@mortimer.com.

Net Wags Develop New 'Viruses'

The latest let's-pretend pastime on the Net has been dreaming up new kinds of computer viruses. The Washington Post sampled a few of them. For instance:

- Oprah Winfrey virus: "Your 200 megabyte hard drive suddenly shrinks to 80 megabytes, and then slowly expands back to 200."
- Politically correct virus: "Never identifies itself as a 'virus.' Prefers 'electronic micro-organism.'"
- Adam and Eve virus: "Takes a couple of bytes out of your Apple."
- Ted Turner virus: "Colorizes your monochrome monitor."
- Government economist virus: "Nothing works, but all your diagnostic software says everything is fine."
- Federal bureaucrat virus: "Divides your hard disk into hundreds of little units, each of which does practically nothing, but all of which claim to be the most important part of your computer." ❑



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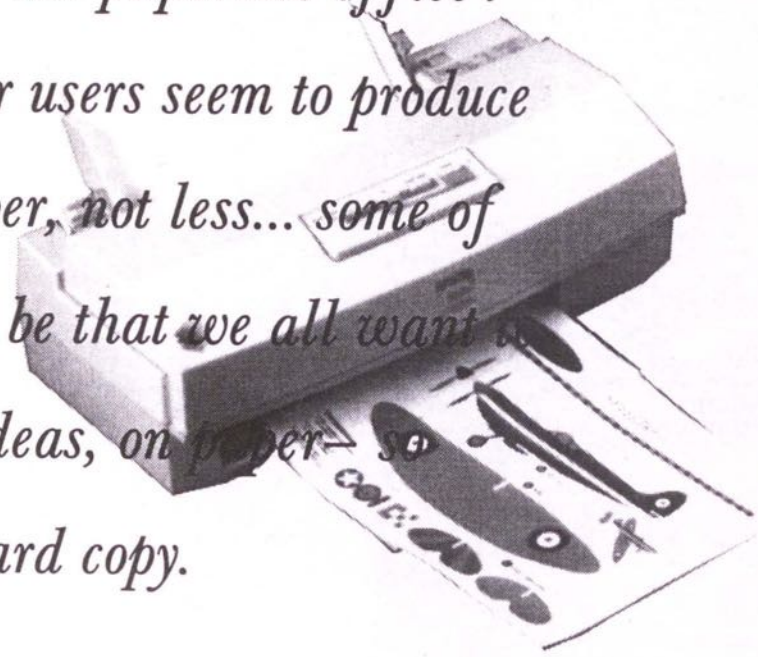
Selecting a New Printer

One of the big lies in computing has been 'the paperless office'. Computer users seem to produce more paper, not less... some of this may be that we all want to see our ideas, on paper— so called hard copy.



Alan Zisman

One of the big lies in computing has been 'the paperless office'. Presumably, once we have these digital tools, we no longer need to put our thoughts onto paper— we can save files instead of filing papers, fax directly to other computers, send e-mail, exchange documents on disk or over the network.

Sounds good, but it doesn't seem to work that way. Maybe it's because no one really likes reading large quantities of text on screen. Certainly, even though you can buy hundreds of great works of literature on a CD disk or two, no one is likely to curl up with their computer in place of a good book.

Instead, computer users seem to produce more paper, not less... some of this may be that we all want to see our ideas, on paper— so-called hard copy. And since computers make making changes easy, we take a look at the printed output, make some changes on-screen, and print again. (When I first started with a laser printer and DTP software, I often found myself printing 30 or more test pages, before finalizing a design. Slowly, I've gotten better about this).

So a computer user without a printer seems sort of like an electric guitar player without an amplifier— lacking a way to share his or her creations with the rest of the world.

Buying a printer today means more choices, and better quality, at even more affordable choices than ever before. But before going shopping, it's worthwhile to ask yourself a few questions, about how you expect to use your new toy.

— is it for personal use, small business, or a large office? A few copies now and again, or a relatively non-stop usage? Single user or on a network? Adult-only use, or will there be kids using it?

— do you need to print multiple-part forms? Envelopes? Unusual paper sizes?

— will you be primarily printing text? Relatively simple graphics? Photographs? Is colour a welcome frill or a vital need?

— do you need a printer that can go on the road with you? One that can fit in a restricted space? Should you combine other functions like fax or scanning or copying?

— what computer platform and operating system do you use— most of the time, and some of the time? Will you be producing test pages for output that will be eventually printed professionally?

If you can answer those questions, then you're ready to think of a budget. Printers can start at a bit over $100 for a low-resolution dot-matrix model, to close to $10,000 for a colour laser. We'd all like colour laser quality at an entry-level price, so be prepared to make some compromises between what you'd like and what you can afford, in order to settle on what you really need.

Maybe we're ready to look at some options.

Dot-matrix and Daisy-wheels

These two printer types are both 'impact printers'... like a typewriter, something hits a ribbon, making a mark on paper. Daisy-wheels, the 'letter quality printers' of the early-80s, use actual formed characters, on a removable wheel. Dot matrix printers produce letters out of tiny dots. Daisy wheels are hard to find today— while their print quality was excellent, they were limited to a single font and size (unless you changed the wheel to a different font or size). And they couldn't print graphics. Dot matrix printers have lost a great deal of their former popularity, but have kept a few market niches... very low price (and low quality) printers, very high speed, industrial strength printers, and anything that needs to print on multiple-

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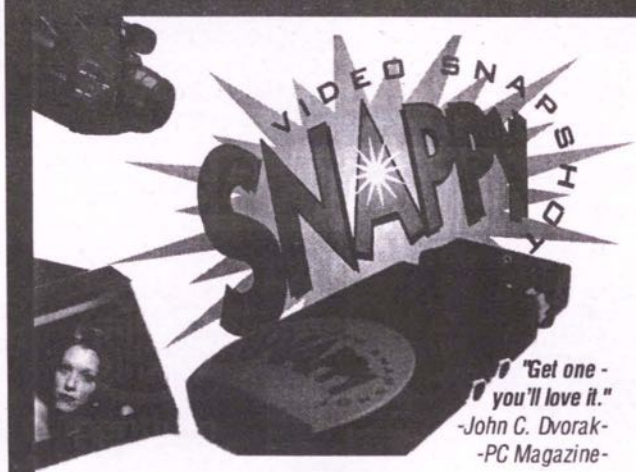

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Selecting a New Printer

(Contiuned from page 47)

part forms. Your corner video-store probably uses a dot-matrix printer so that both you and the store can have a copy of your rental receipt. The classic dot-matrix machine-gun like roar has become quieter over the years, but it's still too loud for many settings.

In most cases, unless you really need to print multi-part forms, I'd avoid dot-matrix printers. Their poor print quality, combined with often awkward paper handling doesn't make them something I'd recommend, unless you really can't afford anything else.

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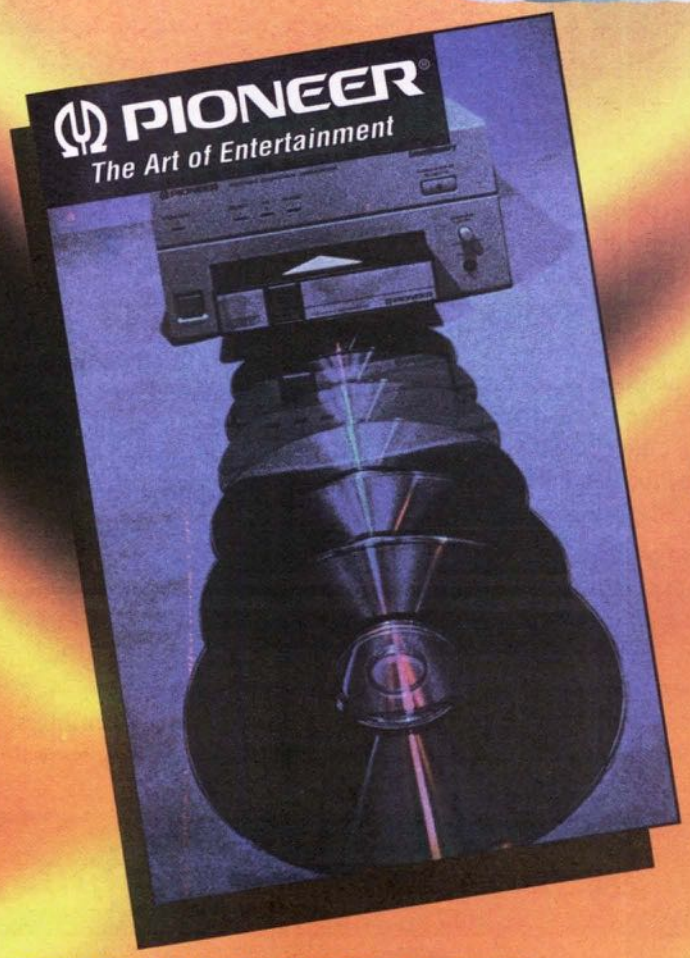

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The Latest Printers

- **Epson** recently announced the availability of the EPSON Color IIs, Stylus Color II, Stylus Pro and Stylus Pro XL color printers.

- **Epson Stylus Color IIs,** 3 color "Photo Quality" ink jet printer, separate B/W cartridge, 360 dpi, 2.5 pages/minute, Windows compatible and fully compliant with Windows 95 Plug and Play specifications. 2 year warranty SRP $629, street price $499

- **Epson Stylus Color II** plain paper 720 x 720 dpi "Photo Quality" colour ink jet, Mac and Windows compatible, also fully complies with Windows 95 Plug and Play specifications, SRP $909, street price $659-699.

- **Epson Stylus Pro,** 720 x 720 dpi, letter size images with registration and crop marks, uses a piezoelectric printhead for dots 25% smaller than original Stylus color printer. Has 100 sheet paper tray, works with Windows and Macs. SRP $1,389

- **Epson Stylus Pro XL**, 720 x 720 dpi, 11 x 17 images with registration and crop marks, uses a piezoelectric printhead for dots 25% smaller than original Stylus color printer. Has 100 sheet paper tray, works with Windows and Macs, SRP $1,950 2 year warranty

  Contact: Epson 800-289-3776 x3000

- **Tektronix Phaser 340,** 32 Mhz RISC processor, 4 ppm, full color, uses plain paper, low cost about 4 cents for B/W and US 16 for color, uses easy and clean to replace solid ink sticks good for about 3,000 pages, 600 x 300, Adobe PostScript Level 2, with options Ethernet, token ring, LocalTalk/Serial, supports Macs, PCs, UNIX. under US$7,195, EnergyStar compliant. Contact: 800-836-6986

- **HP LaserJet 5L** SRP $855, 600 x 600 dpi, uses HP's new PrintSmart set of technologies designed to give Windows users advanced features which save time with quicker print speeds, uses no wait fuser technology to get page out in first 20 seconds and can print faster than rated engine speed, cost page is less than 2 cents and

EconoMode brings it down to I cent be conserving toner, has 4,000 page monthly duty cycle, sets up out of the box in about 15 minutes, one button operation, on-screen help and print status monitor, plug and play compatible with Windows 95, Energy Star certified.

• **HP DeskJet 340** notebook printer supports wireless printing, transmit from up to three feet away, IrDA (Infrared Data Association) compliant, 600 x 300 dpi, has resolution enhancement technology for making letters and graphics print at higher resolution, 3 ppm B/W and 1 ppm color, battery or AC power, has rapid charger for mobile users, Mac kit, the under 1 lbs 30 sheet paper feeder handles letter, legal, envelopes, transparency, film, labels, SRP $514. The printer port accessory for infrared printing has an SRP of $69. Color kit for color output which consists of color cartridge and case has an SRP of $69. Also uses HP's ColorSmart technology which makes color output simple. World wide rapid recharger has SRP of $128, it holds 2 batteries, each of which prints up to 100 pages on a single charge and can be recharged in one hour. Adapter kit for Mac PowerBook users is $53.

Contact: Hewlett-Packard 800-387-3867.

• **Raven LS-6** 1200 dpi when used in Windows mode with edge enhancement technology and photo enhancement technology, supports client/server operations under Windows for Networks 3.11, 6 ppm, bi-directional parallel port provides print status to Windows users, toner saving mode, has RAM compression which can print full page PCL4 pictures with 512 kb of RAM, Energy Star compliant, 5" wide footprint, has refillable toner process unit, toner KXP-459 has life of 2,000 pages at 4% coverage, process unit KXP-EP5 has life of 15,000 pages. Contact: Serviceworks Distributions (604) 273-4453.

• **Canon BJ-30** small size printer (300 x 157.6 x 57 mm), two line print capability gives it a 277 cps or 3.5 ppm speed, 360 x 360 dpi can be smoothed to 720 x 360, has 4 print modes - fine, high quality, normal and economy. SRP $449

• **Canon BJC-70**,uses two ink tanks, one for B/W and the other for color, new quick-drying non-toxic inks have bright colors and rich blacks with better resistance to fading and moisture, wide cartridge prints two lines at a time, the BJC-70 can print on envelopes, transparencies, backprint film and high gloss film, auto feeder holds 30 sheets and a paper thickness detector eliminated the need for a paper selection lever, has universal power adapter for worldwide use, rechargeable nickel metal hydride battery for up to 180 pages SRP $599, weighs 1.4 kg, measures 300 x 157.6 x 57 mm

Contact: Canon Canada (905) 795-2004.

(Continued on page 50)

Ink jets

As dot-matrix printers have lost their former popularity among home and small office users, Inkjet models have filled the gap. These models are whisper quiet... like dot-matrix printers, they form letters and graphics out of tiny dots, but rather than hammering onto a ribbon, in jets spray tiny dots of liquid ink right onto the paper.

The trick here is to let the ink dry without smudging— ink formulations have gotten better, but it's still a potential problem. Don't handle that page for a moment or two when it first comes out of the printer! As well, different papers respond differently to the liquid ink— some, even expensive letterhead paper, may 'wick'... soaking up the ink like a tiny sponge. Try out some brands of paper

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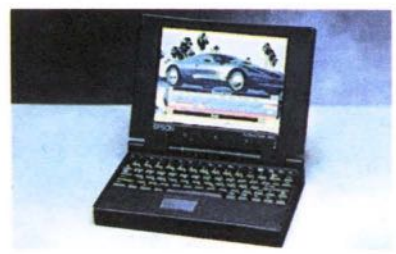

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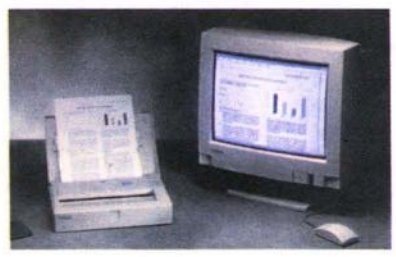
The Epson Stylus PRO



Personal Document Station (PDS)

The ActionTower 8000 Multimedia PC

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Selecting a New Printer

(Continued from page 49)

designed for your printer, and decide whether the increased print quality is worth the price.

Ink jets occupy the low-to-middle of the price range, from just a few hundred dollars, up to $800 or so. Today, all but a few models offer colour printing, but quality varies. The better models load four different inks at a time— three for colour, plus black. Three-colour models produce a pseudo-black, by mixing all three colours. This black looks more like a dark olive-green to my eyes. Luckily, these models let you replace the colour cartridge with a black one, if you want to print black and white text or graphics.

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(Continued from page 49)

• **Genicom 7612** SRP $2,415 street $1850, uses HP4 toner cartridge, 12 ppm, 600 dpi with HRC (high resolution control) 2 mb RAM expandible to 26 mb, 150 sheet multi-purpose paper tray, 500 sheet second paper tray, duty cycle 20,000 pages/month, takes PCMCIA III cards, auto port and emulation switching for networking, emulates Adobe PostScript Level 2, Epson FX-850, HP PCL5e (LaserJet 4), HP-GL. Uses HP LJ4 toner (EP-E), Energy Star compliant and it even takes IBM TX/CX cards. Contact: Genicom Canada (905) 882-2500.

• **Lexmark Optra LX** 1,200 dpi, 16 ppm, 300 dpi or 600 dpi prints at 12 ppm while 1,200 dpi outputs at 8 ppm. SRP $2,999 with 4 mb RAM and 500 page bin. PostScript Level 2 and enhanced PCL 5 emulation. Hard drive and duplexing option, upgrades to 32 mb RAM, SmartSwitch senses PostScript or PCL and switches automatically. Cartridge prints 7,000 pages at 5% coverage, duty cycle rated for 75,000 pages per month. One year warranty

• **Lexmark WinWriter 150c** has both color and B/W cartridges on hand so no swapping is required, true blacks not mixed inks, 2-4 minutes for color output, 3 ppm black draft mode, 2 ppm black letter quality mode, 600 x 300 dpi, handles letter, legal, envelopes, labels and custom papers (3" x 5" to 9" x 14.33" width x height), 150 sheet input tray, 15 envelope capacity. Energy Star compliant, ink saver mode 437 x 269 x 297 mm or 17.2" w x 10.6 d x 11.7 h, 9.75 lbs (4.4 kg). Consumables, B/W 1,000 pages @ 5 % coverage, color 200 pages @ 15%. Two year warranty. Street price @ $529 comes with Corel Draw 3 CD-ROM. Cost per page in color averages 27 cents and 4 cents in B/W.

• **Lexmark Medley** is a color printer, plain paper fax, scanner and copier all-in-one. Color ink jet printer, B/W 3 ppm, takes 2.5 to 7 minutes to print in color, 600 x 300 dpi with PQET in B/W, 300 x 300 in color, outputs 16 million colors or 256 grey scales, 150 sheet paper, handles legal, letter, envelopes, tranparencies, labels, stickers, index cards, 12 TrueType and 2 DOS fonts. Scanner rated at 6 ppm, 300 x 300 dpi, 256 grey scale. Plain Paper fax has handset, autodocument feeder has 20 pages, 6 ppm, 14.4 kbps transmission, send resolution super fine is 203 x 392, fine is 203 x 196 and standard is 203 x 98 dpi, 64 speed dial numbers, 14 one touch functions. Fax has 60 page memory should ink run dry or paper run out and it is expandible to 258 pages. Memory allows other functions to work when fax is incoming. Auto fax/tel switch built in. Medley 4x and 4sx have handsets. FAXsynergy software and multitasking OS firmware allows user to view/store documents, receive to PC, send from PC, multiple phone books and remote status reports. Copier copies at 2 ppm, 300 x 300 dpi at 64 grey levels, 99 copies, contrast control. 1 year warranty, black ink cartridge has life of 1,000 pages at 5% coverage, color cartridge has life of 200 pages at 15%

coverage. SRP for Medley 4sx is $1,599, street price is $1,479 and it comes with color and B/W cartridges, handset and battery backup to keep faxes in memory should power go down, Medley 4c SRP $1,539, street $1,399, has B/W and color cartridges and Medley 4x SRP $1,539, street $1,399 comes with handset. Cost per page is 3 cents in B/W and 19 cents in color. Contact: Lexmark 800-358-5835.

• **QMS magicolor CX** laser printer, is a 600 x 600 dpi color laser that can print in color at 3-6 ppm and 12 ppm in B/W, it is networkable with Ethernet or Token Ring connectors to NetWare, TCP/IP, EtherTalk and LanMan/ LanServer, there is QMS ColorSmooth which uses frequency modulation screening for accurate colors and smooth edges and QMS QCOLOR color management tools for automatic or custom color control, it has a $1,499 option to turn it into color copier that does not require host computer to operate, the option has a scanner that plugs into the SCSI port on the printer. Also available is a sheet feeder for $799 and transparency unit for $699. The magicolor CX comes with 32 mb RAM expandible to 64 mb plus internal HD, it has 39 PostScript fonts, 20 PCL fonts. SRP for the magicolor is US$7,999. The CX is for high end photo realistic output. Less expensive color printer is available in the LX which comes with 12 mb RAM for 600 x 600 B/W output or 300 x 300 color, another 12 mb RAMwill give 600 x 600 color output SRP is US$4,999. Contact: QMS 800-523-2696

• **Brother HL-1200** series features: 1200 dpi, straight paper path, 500 sheet paper tray + 150 sheet multi-purpose tray, 12 ppm, uses HP4 toner cartridge (EP-ED), Mac compatible with adapter card from 3rd party, optional duplexing, 2.0 mb RAM expandable to 26 mb with standard 72 pin SIMMs, 6 mb RAM required for 600 dpi PostScript output, Adobe Level 2 emulation, 20 MHz RISC processor, uses APT (advanced photoscale technology) to enhance photos and HRC (high resolution control) to get text resolutions of 2400 x 600 dpi, has PCMCIA slot for flash RAM or HD 2 year warranty, 6,000 pages @ 5% coverage from 1 toner cartridge or 12,000 pages using economy mode.

• **Brother HL-660** series, 600 dpi, straight paper path, 6 ppm, 2 mb RAM expandible to 10 mb, Mac compatible with AppleTalk connector, PostScript Level 2 emulation optional, 1 year warranty, consumable same as HL-630

• **Brother HL-630** 0.5 mb RAM expandible to 2 mb, 300 dpi, 6 ppm, TN-100HL cartridge prints 3,000 pages at 5% coverage 6,000 pages if economy mode is used, can double as Mac QuickDraw printer, drum needs replacement after 6 toners.

For Brother printer information, contact: STD (604) 278-2893.

Ink jet print quality often gets called 'near-laser', but to get the best quality, be prepared to buy coated papers. And you'll find that while the printers themselves are affordable, the cost of ink and paper is relatively high, producing higher cost per copy than with either less-expensive dot matrix, or pricier laser printers. And the cost for colour pages is even higher (and the time to print them is longer— sometimes much longer. Don't be surprised if you wait half an hour for a full-colour photo to print).

My personal favorite inkjet is Epson's Color Stylus. It's the only printer in its class that can print at 720 dpi resolution, and its output of colour photos is simply spectacular. While it requires special coated paper for that quality, Epson sells this paper for much less than the special papers sold by its competitors. Such pages take a long time to print, and its price is at the high end of its class— around $800, but if you want to print colour photos, you need to compare this one's output.

Inkjets have also emerged aiming at notebook users... these can be portable enough to take on the road, though their output tends to be somewhat lower quality than their stay-at-home equivalents.

All in all, for home use, especially with kids, for portable computing, or for a small business that produces relatively few pages a day, an inkjet can be a good choice.

Lasers

Laser printers use similar processes to photocopiers, using actual lasers, or in some cases, banks of LEDs (light-emitting diodes) and dry powdered toner to print onto paper. Until recently, this has been any colour you wanted, as long as it was black... but now, colour lasers, using separate toner cartridges, have started to appear, finally under $10,000. At the other end, personal laser printers start around $500— about the same price as an average-quality ink jet.

At that low end price-point, lasers feature crisper print quality (even on standard paper) than Inkjets, faster performance, and a lower cost per copy. But no colour. So you have a decision to make— for families, printing only a small number of pages, a colour inkjet may be the better costs; most small offices, however, will probably be better served with a personal laser.

For years, lasers all produced 300 dpi (dots per inch) resolution... recently, 600 dpi has become standard in all but the lowest-end models. This higher resolution improves graphics output, but is rarely noticeable in straight text. And sending a page in 600 dpi sends 4 times as much data from the computer to the printer as a 300 dpi page— requiring

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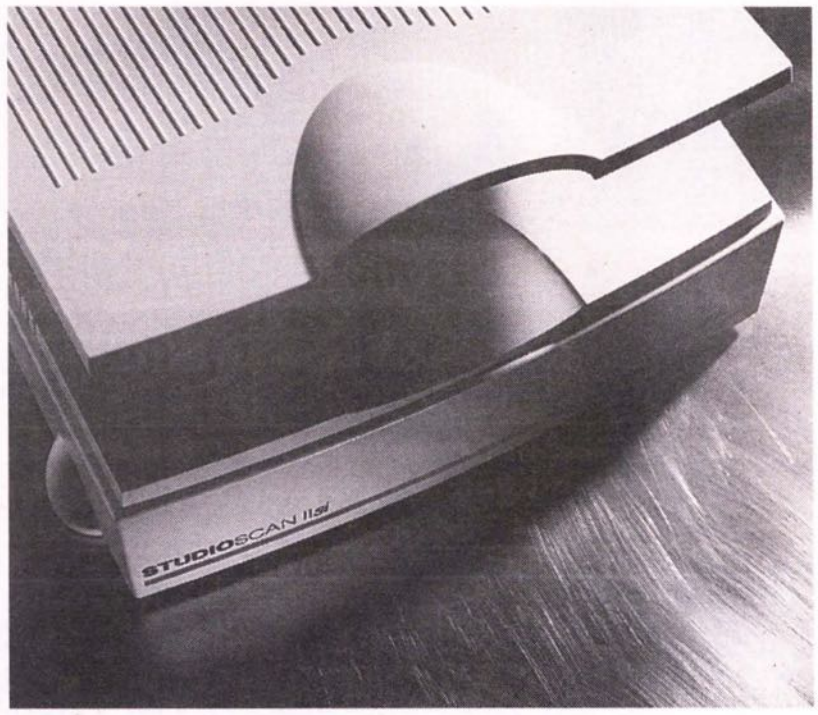

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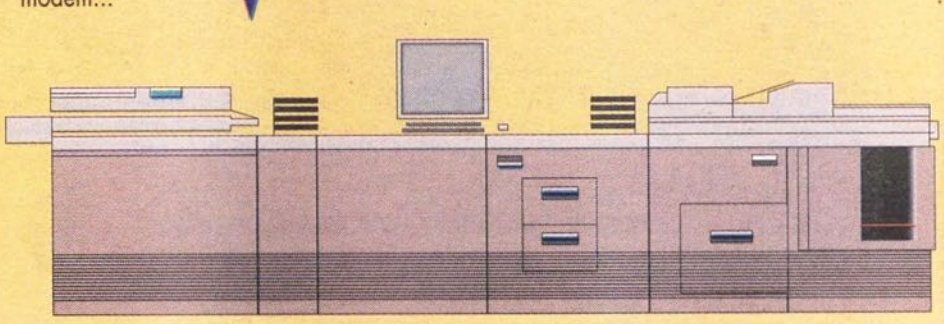

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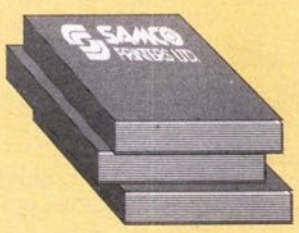

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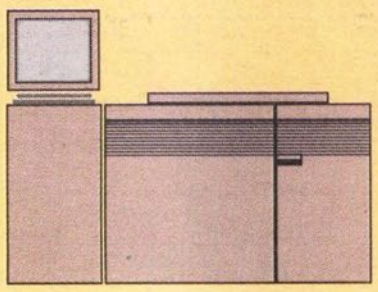

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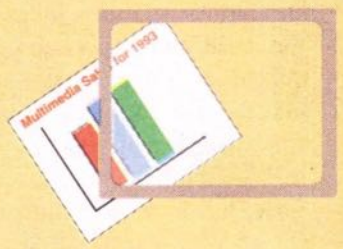

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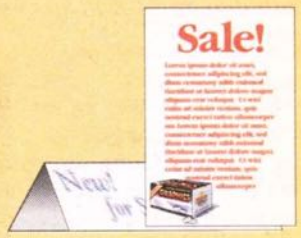

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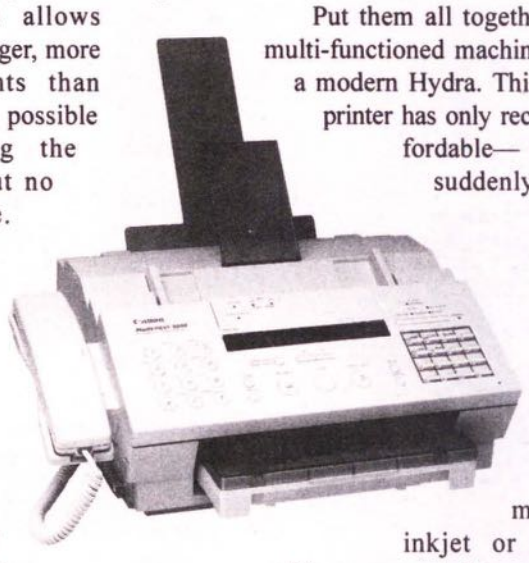
Selecting a New Printer

(Continued from page 51)

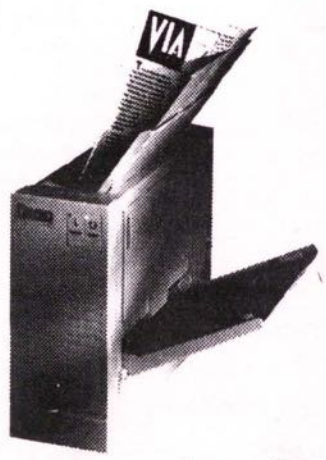
more ram in the printer, and taking much longer to print. If you're printing text-only, you may want to switch to 300 dpi by default— and if nearly all your work is text-only, you may not need to pay a premium for a 600 dpi printer.

Speaking of ram in the printer— a recent innovation has been to include some sort of memory compression, starting with HP's Memory Enhancement Technology, quickly matched by its competitors. This allows printers to handle larger, more complex documents than would otherwise be possible without upgrading the printer's ram— but no longer an issue.



These font-types are installed once in the operating system (Mac, Windows, or OS/2), and can be used by all software, and for all printers... don't buy one brand of printer over another simply because it claims to include a greater number of fonts.

A few years ago, Postscript, a page description language favored by Mac users and graphics professionals and page designers, added about $1000 to a printers price. It still demands a premium, though this is now just a few hundred dollars. Do you need it? Probably not, unless you are working with graphics professionally, and expect to produce files that will ultimately output on high-resolution printers by a service bureau. In this case, you'll want a Postscript printer in order to get a good idea of how your page will look before sending it to the service bureau— but otherwise, Postscript is probably unneeded.



Hydras are no longer just a mythical beast

In the Greek legend, Hercules fought a many-headed monster called a Hydra. For several years, people have used the term to refer to a new-breed of office equipment.

Your office may have a photocopier to make copies, a printer, to print from your computer, and a fax machine... which can also make (so-so quality) copies. Add in a fax-modem in the computer, and a scanner, which, like a fax machine makes digital versions of paper originals, only now, for your computer.

Notice anything? There are really only a few functions— copying originals, printing paper output, and sending and receiving digital information... all of these gadgets perform one or more of those functions, and if you have the whole collection, you have multiple gadgets, doing the same function, in slightly different ways.

Put them all together into a single, multi-functioned machine, and you have a modern Hydra. This class of super-printer has only recently become affordable— in the past year, suddenly a half-a-dozen manufacturers have begun to produce models, hovering around the $1000 price point. By combining a fax machine with an inkjet or personal laser printer, users get plain paper faxing, copying, scanning, and computer printing... for much less than buying a collection of separate products, and taking up much less office space, as well.

These are well worth a look, especially if you're in the market for more than one of these devices anyway. However, you'll find them somewhat similar to all-in-one stereo-systems. They're cheaper and more convenient than separate components, but you won't get the same quality. For many home and small office users, though, they can be an excellent choice.

Decisions, decisions, decisions. Lots of options to pick from, in selecting a printer— no single choice will be right for everyone. For more advice, you might want to take a look at a free booklet, "The Printer Guide— Buying a Printer Made Easy". It's been recently published by printer giant Hewlett Packard, and if you ignore the subtle bias towards that company's products, it has a lot of information, in a readable format. You can get a copy by phoning 1-800-558-5029, or faxing 1-800-814-8207.❑

About the author: *Alan Zisman can be reached at e-mail: alan_zisman @computer-player.com*

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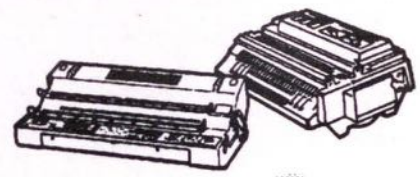

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Good Records Enhance Profits, Poor Records Are Costly

Richard K. Acton

There is often a direct correlation between profitability and good recordkeeping. We have found that if businesses have not been keeping good records it costs the business money. Conversely, if they have been keeping good records, there are savings and the enhanced returns may even make the recordkeeping area a small profit centre.

I know when you are setting up a new business the initial motivation is to get out and get sales happening and develop business. Consequently, setting up your books of account, doing government filings, etc. often gets put off until later on. This is an understandable tendency because these activities do not bring in business and there is usually a cost unless you are a bookkeeper or an accountant. However, avoiding this cost often leads to substantially heavier costs in the future.

If you wait until you have been in business for two years, to seek the services of a Chartered Accountant, you have a terrible game of catch up. Records are often not in an easy form to work with and may be incomplete. Your C.A. will assign the basic work to a bookkeeper. The bookkeeper will attempt to reconstruct data from cheque stubs, deposit slips and your memory.

This also consumes more of your time than doing the recordkeeping on a timely basis as the bookkeeper will constantly be calling you and asking what particular transactions were. Most of us, including myself, do not remember every little detail of what we did two months ago, never mind two years. Consequently, a deposit which may either be advances from yourself or a sale may be uncertain. Then there is a cost to going through your personal banking records to see if you have written a cheque in that amount to the business. Even then the result may be uncertain. Moreover, if Revenue Canada chooses to audit that particular year their interpretation without documentary evidence may be different than yours.

Apart from the difficulties of bringing the records up to date, you have lost substantial flexibility in your planning. Your choice of yearend will be done reactively as opposed to proactively. Your C.A. is looking to see which year end is going to damage you the least as opposed to benefit you the most. Had this been looked at in the beginning you would have had wider options. For example, the money you have taken out of the business will have to be dealt with. If you are incorporated you have lost your flexibility with respect to planning a year end bonus. Late filing of income tax returns will result in interest on late filing and penalties on tax that was outstanding. Good planning in advance might have reduced or deferred the tax but after the fact cannot.

Provincial Sales Tax and Goods and Services Tax returns which are late will result in a liability along with late filing penalties and interest. There will be further penalties if payroll remittances had been payable and were not paid. This is a costly and painful exercise, which takes far more time and energy than maintaining the books.

If, on the other hand, you spend the small amount involved to set up a proper recordkeeping system in the beginning, you will avoid the agony of what I have described above. This is not simply a matter of setting up the system but also maintaining it. I have seen situations where people have the best of intentions but either they are not capable of doing it themselves or get distracted. My recommendation is to hire a bookkeeper on a part-time basis to do your bookkeeping monthly, no matter how small you are. The bookkeeper is being paid to do it and should get it done because it is his or her job. On the other hand, as a business person, if a customer or client calls and you are doing this work you know what is going to get priority.

I can think of clients who have actually done the recordkeeping themselves and done it well. Eventually they have delegated it to someone else because they recognize that they can make more money doing what they do best leaving this function to a bookkeeper. In essence they make this sector a profit centre because the business becomes more profitable by focusing the owners' energies on running the business and dealing with customers and clients rather than the recordkeeping. This does not mean that if you are a owner or operator you should completely abdicate the area to someone else. Your bookkeeper should be providing monthly reports to you which can be used as warning signals.

The monthly reports are also useful for your Chartered Accountant to enable him or her to advise you on tax saving strategies. Your C.A. will be looking at the forest instead of the trees and will enhance what I call the true profitability of your business, that is, what you get to keep after dealing with Revenue Canada. If your C.A. is assisting on a strategic level, you are going to find that you are getting

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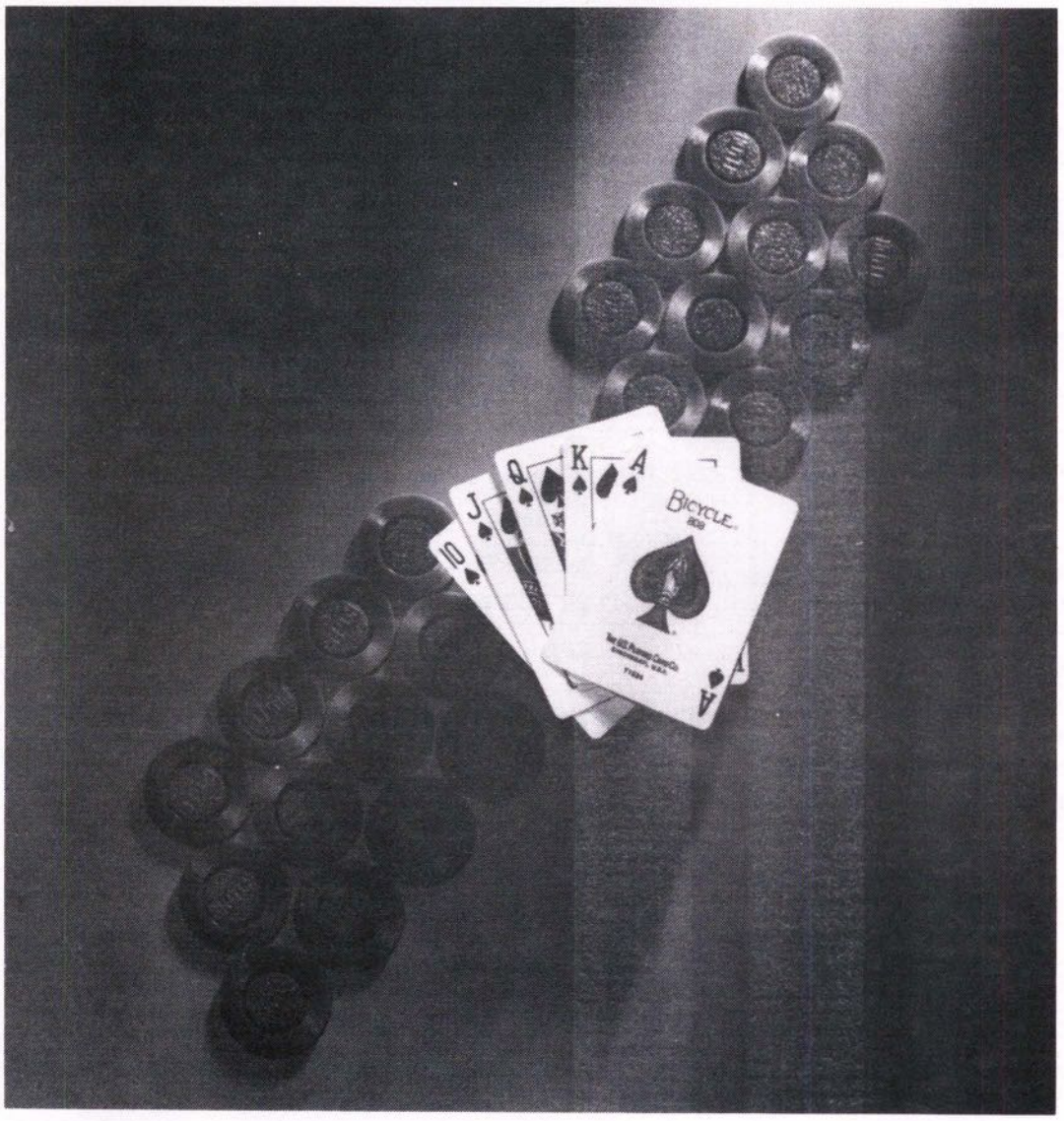

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much more value for your money than if he or she is having to spend his or her time putting out fires for you.

Good recordkeeping also enhances your banking relationships. As you grow, you may need bank financing to provide for expansion or to fund receivables or inventory. I have had people come to me and say, "I need a statement for my bank right away". If their records are not up to date it is going to take some time to get them to the point that there is a statement for the bank. And until those records are put into the appropriate form, neither you nor your Chartered Accountant will truly know whether the information in them is going to be such that the bank would wish to make a loan.

If you have maintained good records, with your bookkeeper providing computerized monthly statements, it is very easy for your C.A. to look at and provide initial advice on the likelihood of a bank loan. Further, as you approach your yearend often certain decisions are made for tax reasons. These decisions might be different for financing reasons. An example is a decision to bonus more of the profit out to the owner to reduce corporate taxes. This reduces the equity in the company and may have a negative impact on the formula the bank uses in approving loans. These issues should be assessed on a proactive basis and that can only be done with up to date records. Additionally, the bank will be receiving your financial statements on a timely basis which affects their overall image of how you operate your business and as such makes them more willing to make loans. This is particularly important if you are pushing the limits of their normal lending guidelines.

I have occasionally run across people who do not record all of their income to avoid paying additional taxes. Apart from the fact that this is tax evasion which is a criminal offence in Canada, you can damage your ability to obtain financing. I remember years ago a gentleman being referred to me to provide a financial statement or letter to the bank supporting his income. He brought me his records, such as they were, and asked me to provide the information. Based on what he gave me, I told him his records showed a loss and consequently the bank probably would be unwilling to provide the loan he requested. His response was, "Oh, that's all I put in the books but I don't record cash payments. If I tell you the amount, can you include it?". Of course I could not, I had no evidence of it. By cheating on his taxes he had in fact reduced his chances of getting a mortgage to buy the home he wanted. Had he been maintaining proper records and dealing with a Chartered Accountant on an ongoing basis, he would have had adequate records and the advantages of planning to legally minimize his tax as opposed to exposing himself to charges of tax evasion.

Our firm has developed a new business kit which we provide to clients starting out in business to assist them in dealing with many of these issues. I am prepared to provide it to readers of this column at our cost of $10.00 a copy to cover printing and binding. If you are already a client, I am happy to provide you with a free copy or if you become a client after receiving the kit, I will be more than happy to refund the $10.00 to you. If you wish to receive a kit, please call our office.

Remember, inadequate records are costly in more ways than one. They are dangerous to the financial health of your business. Good records will enhance your profitability. ❑

About the author: ***Richard K. Acton**, F.C.A. is with Acton Gunderson Chartered Accountants. He can be reached at (604) 734-4871 or (604) 734-9221.*

ITEX is on the Internet

John Madsen

On August 9th, Portland-based ITEX Corporation President *Michael T. Baer* announced that the company is on the Internet with its own gateway, web server and Internet site. This direct link means users have interactive access to real-time information directly from the ITEX computer data base. Baer had earlier announced (June 1995) an agreement to position ITEX as the only barter company to appear on the new Microsoft Network.

For ITEX, the Internet represents access to a major new market, and ITEX is promoting its barter services to these prospects. The Company believes access to an ITEX Internet gateway will promote greater business volume among the Company's thousands of current business clients.

There are several levels of access for different Internet users, according to Baer. Any Internet user can use the net to learn about ITEX and the barter industry. Information is updated constantly from the ITEX data base, and features such as *Key Word Search* make the system user friendly.

At the first level, all Internet users can read news about ITEX and the barter industry, participate in forums, review hotels and resorts available through ITEX, learn about advertising media available on trade, browse the ITEX Mall for products and services to buy with ITEX Trade Dollars, or check the broker directory for the nearest ITEX office.

In addition, ITEX member businesses who have a **BarterWire** password can use the Internet connection for electronic trading, and can access directories of other ITEX clients and the products and services they offer on trade. They can also access **Trade Flash** listings of products and services, add or update their own listings, or put their own advertisements on the Internet through the ITEX system.

Business today is PC driven and, with the help of a telephone modem, savvy business people are mapping their own futures on the Information Highway. Having the right information at the right time is the key to business success, and millions of successful individuals around the world use the Internet to find vital business information.

With ITEX and the Internet, you can learn how to bring the benefits of barter to your business. You'll see examples of how barter transactions work and how barter can open a whole new world of profitable trade for your business.

On the Internet the call is free. You can learn more about the benefits of barter for your business by calling ITEX on the Internet at: **http://www.itex.net** or direct dial ITEX **BarterWire** at: **1-503-244-7943**. Like the Information Super Highway itself, barter is changing the way the world does business. Companies large and small have discovered learning the basics of barter today provides a more profitable tomorrow. ❑

About the author: ***John Madsen**, a Chartered Accountant by profession, is President of ITEX Bartercard and may be reached by Email at john_madsen@mindlink.bc.ca or by phone (604) 521-7911 or fax (604) 521-7944.*

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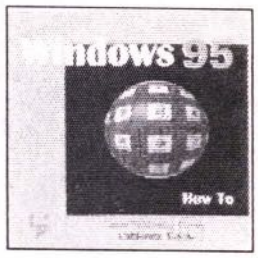

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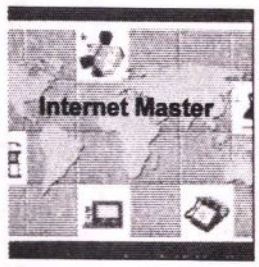

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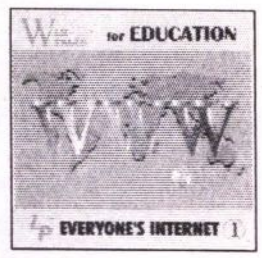

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the vicious world of Macintosh Clones

Jason Belsey

It has been almost a year since Apple announced that they would licence Macintosh clones, yet, for most of us, there are few viable products available today. There have been machines available almost from the beginning, through Daystar Digital and Radius, but the valiant effort by Power Computing is the most notable, and most applicable to those of us who do not engage in such colossal activities as digital video and high-end multimedia production, activities for which Daystar Digital's and Radius's machines were specifically designed.

Power Computing seems to have found out the hard way, the truth in Apple CEO Michael Spindler's quote of last fall, where he stated that "nobody can produce Macintoshes at a lower cost than Apple can". Since Apple has had ten years to perfect the Macintosh production process, it seems like a logical statement. While Power Computing has launched a respectable marketing campaign, they have failed to grab sufficient market share as yet for a number of reasons.

Power Computing's entry level Macintosh-compatible, a 100MHz PowerPC 601 which is bundled with 8MB of RAM, a 540MB Hard Drive a Quad Speed CD-ROM, three Nubus slots, and a selection of software, sells for $1699 US - or roughly 20% less than Apple's similar Power Macintosh 7200/90 with 8MB of RAM, a 500MB Hard Drive, a Quad Speed CD-ROM and three PCI-bus slots. Sure you can save a few bucks by buying a clone, but Macintosh owners as a group have traditionally been higher income earners interested in quality rather than price, and have never been as price conscious as PC owners - that's why they bought Macin-toshes in the first place! Apple customers tend to be the most brand-loyal computer users in the industry and they expect to pay a premium for quality that accompanies the Apple brand name. The potential of saving a few dollars will do little to convert the masses, especially since Power Computing's primary target market is business users, who are even less price sensitive than consumer users.

While Power Computing has built a machine that seems to be as dependable as a Macintosh, it is not unique in any way, other than the fact that it is less expensive. Since all Power Computing machines are shipped from Texas, add in the shipping and brokerage charges, and the price gap narrows for us Canadians when compared to what a Power Macintosh would cost at the Apple dealer down the street - and you don't have to ship it anywhere for service, nor do you have to call a long distance number in a different time zone for support. (It will probably take a while for you to decipher the accent too...) If your Power Computing clone ever breaks down, you can kiss goodbye the residual amount you saved, in shipping charges back & forth to Texas, and you may lose thousands of dollars in downtime.

Power Computing's biggest mistake is its inability to provide a viable program for resellers, which is necessary for any compatibles to be successful. Power Computing has chosen to follow the example of Dell, providing products and services directly to end users via telephone and mail order, and has all but shunned any form of reseller distribution. Although profits are potentially higher, this form of distribution limits Power Computing's visibility in the marketplace to only well-read, existing Macintosh users (since Power Computing's only advertising vehicle seems to be Mac World magazine) thus Power Computer completely misses out on the opportunity presented by the plethora of currently upgrading PC users - a market that we as dealers have been scooping up for several months. (...if Windows 95 makes my PC more Mac-like, why don't I just buy a Mac in the first place?...) In speaking with Power Computing, the lack of dealer distribution is strictly a profit issue. Since they would have to offer a discount to dealers, and with Power Computing already earning such slim margins, there just isn't any room to move for dealers. When I spoke with one of Power Computing's representatives, he told me that the best they could offer right now would be about 2% off their list price if I agreed to purchase 500 Power Computing clones over the next year, and that they might be able to increase that to 4% if I was able to do over a thousand. While margins have slimmed drastically during the years I have been in the industry, 4% is still hardly an incentive for dealers to keep inventory, let alone market the product. Even superstores don't like to market products below 10%.

Power Computing will not succeed in its present state simply because it does not have the foresight nor the experience necessary to succeed in the Macintosh market. Power Computing is attempting to compete against Apple on price alone, and when you compete based strictly on price, rather than value, you die. As resellers it's something we have all learned in competing with superstores, and it's why we have been able to survive even with higher prices - by offering the added value that superstores cannot. Since there are no value-added features in Power Computing's clones nor their marketing strategy, and Power Computing is either unable or unwilling to distribute through dealers capable of providing that added value, Power Computing will soon disappear. Daystar Digital and Radius however, although small players in the Macintosh compatible game, will continue to grow and develop slowly in their established niches through their innovation, foresight, experience in the Macintosh market, and their relationship with their dealers.

Surely someone will get it right soon. The "Pippin" product, slated to be released this Christmas, will be a godsend to the Macintosh consumer channel. For those unaware, Pippin is another Macintosh compatible which covers a specific, and very profitable niche - the video game market. Theoretically, Pippin, which will look similar to a Sega CD, will run standard Macintosh CD-ROM's simply by popping them in - no installations and no double-clicking required, and at a competitive price in the $400 range. The result will be a huge increase in the number of games available for Macintosh users, and an increase in the attractiveness in the Macintosh in the consumer games channel - a category IBM compatibles have always been the leader in simply due to the sheer number of game titles available.

More Macintosh-compatible products featuring added value and functionality will arrive over the coming months, but unless Power Computing changes its focus and expands the functionality and availability of its clones, it won't be around to produce them.❑

About the author: *Jason Belsey is the President of Mac Station, an Apple Authorized Dealer in Maple Ridge. He can be reached at e-mail: jbelsey@macstation.com*

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The Big Mac Attacks When Orwell was big...

Graeme Kennedy

When Steve Wozniak created the Apple computer, he developed an affordable consumer computer which took off after VisiCalc, a spreadsheet, gave people an application and reason to buy computers. Others saw the growing market and an opportunity to meet it. In came the Apple clones: the Franklin, Orange, and Pineapple which offered more features and lower prices. Apple wouldn't build computers cheaper and refused to license an Apple clone. Apple took legal action against the clones and remained the only manufacturer. Apple gambled that high quality production and control of the hardware design would generate a premier product and realize higher markups. In 1984, another Steve Jobs introduced the Macintosh, and Apple became a household name.

Ten Years After...

IBM made the PC market legitimate, Bill Gates through Microsoft made DOS available and clone makers sold most of the hardware to make Intel and Microsoft the standard for PCs.

By 1994, 10% of all personal computers sold were manufactured by Apple Computer. However, Apple was suffering from their own success. Demand was more than what Apple's factories could produce. Delays in delivering computers to retailers stretched to months. Apple and IBM's market share have both suffered to the readily available PC clone, and Apple's new models reflects an attempt to reverse the trend.

Today.

Apple is switching to the industry standard PCI-bus on the latest Macs for faster performance and because they are a standard, they cost less than the NuBus bus. In addition, Apple is licensing the Mac OS to companies to manufacture Macintosh clones. At the same time, we have witnessed the evolution of RISC technology, incorporated last year into three new Mac models running the Power PC 601 chip.

Last year's Macintosh additions were the 6100-66, 7100-66/80, 8100-80, 100. This first generation of Power Macs, will be real bargains in early 1996. If you have to buy this fall, I recommend this year's models: the 6200-75, 7200-75/90. The new improvements for this second generation include increased overall speed (about 20% faster), increased Video RAM for faster graphics or more colours, and the 7200s ship with telecom software that can allow the built-in modem (GeoPort Pod) to operate as a hands-free phone, answering machine, and fax.

The 604-based Macintoshes are the 7500-100, 8500-120, 9500-120/132. The 9500 is the fastest Mac, and is considerably faster than any Pentium at this time. The 9500 is a ten thousand dollar machine, comparable to a Silicon Graphics Indy if you need this kind of power.

And in this corner...

Radius has an 81/110, which is analogous to the 8100. You can actually buy an Apple 8500-120 for the same price, so I don't know why they offer the product at this time. IBM has promised to build and sell MacOS-loaded CHRP (Common Hardware Reference Platform) machines next year. DayStar has a very unique product: a four-PowerPC 604 CPU "Genesis MP" system. I'm skeptical about the justification for this because the costs for software that can exploit the multi-processing architecture may be greater than the economic gains of processing time. Power Computing was first off the blocks with a 601 NuBus (Apple's existing standard) product this summer, and has announced a dozen configurations of PCI, NuBus and even mixed bus machines, running combinations of 601s, 604s and the cool (as in not overheating) 603e CPUs at prices as much as 10% below other clones and Apples.

What this means for buyers is certainly more confusion. Apple's product line has always been frustrating; often incomprehensible. The UBC Bookstore boasts 23 models. Not to mention the possible variations achieved by altering configurations, or adding clones to the inventory.

What this means for Apple is that Macintosh is not the platform of choice for first-time buyers. It means that the user base is comprised largely of the more careful purchasers, or those who are more certain of their current and future needs.

Tomorrow.

Prices will drop a little; power will increase. The new manufacturers have lower overheads and smaller structure allow changes and improvements to be much cheaper. Competition may play a role, but I don't expect to see many players. Apple wants to ensure compatibility with their software, so they are going to be very choosy when selecting 'partners'. All the current partners have been building reliable components and peripherals for over seven years.

All signs seem to point to Apple following NeXT's lead and abandoning hardware manufacturing entirely. Apple has proven that their hardware design and operating system is leaps and bounds ahead of any competitor (except maybe OpenStep) and reports of Copland look promising: improvements in stability, ergonomics, pre-emptive multitasking and intuitiveness. Copland is Apple's answer to Windows 95 hype, but don't expect the dialogue to end there. Microsoft has already begun working on their new version of Windows, nicknamed Cairo, and Apple is mumbling about plans for System 9.

Windows 95.

The improved interface is more productive and intuitive. Despite these improvements, or because of them, Apple will try to remind everybody that Microsoft can only be happy when it has re-invented the Mac. You've probably already noticed the billboard ads and T-shirts mocking Gates' new product, as Apple sees this transitional period as a real opportunity for increasing hardware sales. The campaign is called 'Windows 95 Assault', and emphasizes features which appear to be plagiarized from the Mac OS: 32 character names, a recycler, hierarchical launching menu, desktop, even a shutdown command. However, I detect sour grapes, and consider the campaign more likely to consolidate existing Mac customers rather than actually convert Windows users.

"If anything, Windows 95 will increase Macintosh sales," says Warren Kobbeltvedt of Byte Computers. Most Apple dealers agree: users are examining the costs of converting to Windows 95 and comparing it to buying a new machine. Apple has increased their advertising presence, and also released a product line designed to attract power-starved businesses, first-time buyers, students in need of a new system and those on Intel-based machines who find their systems inadequate to run Microsoft's new GUI, or don't find the operating system's infamous weaknesses sufficiently addressed and would like to explore other options.

Performa...

The new Performa line is a very comprehensive package, and that's what makes it so attractive. The 6200CD is the flagship configuration: Motorola PowerPC RISC 75MHz processor (Pentium 120 or so), quad-speed CD-ROM, 1 Gig hard drive, PCI bus (theoretically compatible with IBM's PCI architecture). Bonus pack include 20 CD's, as usual only a few of which I would use regularly: Quicken, ClarisWorks, and maybe The Family Doctor. There is a 15" monitor, internal 14.4 fax modem, keyboard, mouse and System 7.5. The 6200 is pricey (about $3200), but it includes everything a household will need, and takes longer to get out of the box and plug in than it does to connect to the information super-catheter. While it took me half an hour to resolve an IRQ conflict between my mouse and modem under Windows, I only had to plug a phone cord into the Mac socket that had an icon of a telephone above it and my Internet hookup was done. As a home or small business computer, this is a very productive machine.

It didn't take me long to find a decked-out Pentium 120 with gobs of software for $3100. Windows users may have more frustration, but they can get help and - let's be honest - 'borrow' software from 80% of their friends. While it is still unconventional to buy Mac, the price/performance ratio has equaled if not bettered comparable Windows boxes. Apple's billboard blitz is testament that they are tired of being the 'alternative', and may still be clinging to that pie-in-the-sky goal of 25% of market share. ❑

About the author: ***Graeme Kennedy*** *can be reached by e-mail:* *bluto@pobox.com*

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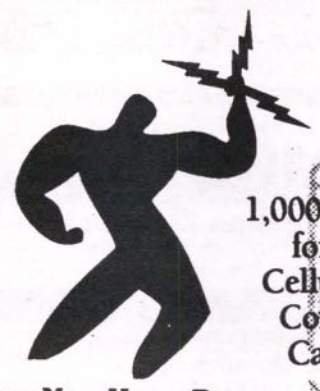

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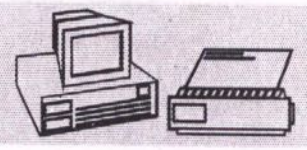

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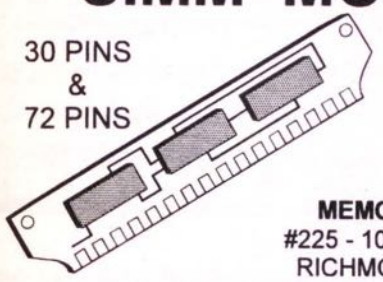

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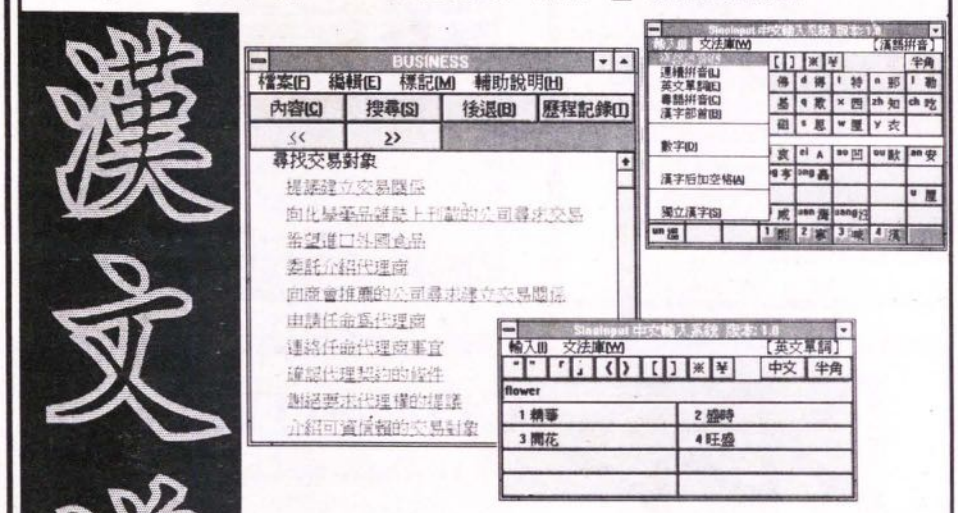

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一.目前市場上可供選擇的PC電腦，從CPU來說主要有兩種產品，一種是486；另一種是Pentium(這是Intel起的名字，如果依照PC的發展史來說，也可以稱它爲586). 486在功能上表現得相當不錯，而且價格已基本上降到了最低點. 對于一般用戶，例如用于文書處理，辦公室，學生的使用等等，486是綽綽有余的. Pentium是目前最高檔次的型號，從一年前它問世以來，價格已經下降了許多，不過在未來的幾個月里估計它還會下降. 在運作速度上，Intel 的486有66和100MHz可以供你選擇，AMD的486還有一種80MHz的，100或80的比66快一點，價格卻相差不大. Pentium 現在有四種速度,70/90/100/133.價格相差比較大.

二.人們都相信在選擇電腦時，對于一般用戶而言，選擇高一檔的電腦往往還不如買低一檔而多配些記憶體. 因此，常常有人問:"是買一台8MB RAM記憶體的Pentium好呢，還是配16MB的486系統好?" 我個人的觀點就是16MB記憶體的486更實惠. 現在的軟體越來越復雜，需要佔用的記憶體也越來越多.記憶體配得越多，軟體的運行速度就越快. 增加記憶體的影響比提高CPU的速度更加重要. 上個月微軟公司推出了

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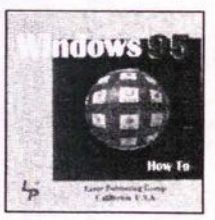

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視窗新版本Windows 95. 這視窗對記憶體的最低要求是8MB.我的建議是:如果你有多余的資金, 首選的一條是多買一些記憶體, 16MB可以比較正常地運作Windows 95.若能買32MB最好,千萬不要買4MB的系統.

三.現在供應的電腦上所配的硬碟對一般使用應該沒有太大的問題.因爲近來大容量硬碟大幅度降價,540MB的硬碟已經是目前最便宜的產品.540MB以下的簡直很少生產,再升級就是850MB和1GB多的了.它們間在速度上相差不大,各種牌號的質量也沒有很大區別.

四.過去買電腦時,往往不考慮配上內裝的數據機,但是現在不同了,數據機已是必須配備的.因爲 Internet已經相當普及,使用電腦的人都不會不試一下上網, 而數據機是上網必不可缺的部件.目前,數據機在傳輸率上以兩種較合適,一種是14.4千波特的,現在使用得較普遍,價格在$60左右;另一種是快速的即28.8千波特的,價格約$200左右.對于偶爾上Internet逛逛的用戶,14.4的就非常實用了,除非你每天都在Internet上吃住或者有什麼特別的項目要求,否則就沒有必要選28.8的.因爲它的價格很快會降下來.

五.除了數據機以外,與前兩年不同的是CD-ROM也已成爲個人電腦上不可缺少的一部分,現在大部分軟體都以CD-ROM方式發行.(有利于軟體安裝和保存).一台電腦如果沒有光碟機將是無法安裝或運作的.

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電腦專賣公司出售的電腦大部分都是由他們自己采購器件安裝的.這種電腦有兩大好處:首先是其配備的器件比較先進.一般業者都是每天從批發商處進貨.因此所使用的器件和線路板大都是最新設計和最新技術的產品.有人會問,這種電腦的安裝是否可靠?電腦技術發展到今天已經非常標準化.絕大部分器件都能相互兼容,不會有問題.另一個特點是便于升級,一般電腦專賣店都采用標準規格的機箱和線路板.因此將來你想升級時,不論拿到哪一家電腦店都能讓他們幫你升級.但是有些名牌產品爲了在批量生產時降低成本或者爲了外觀造型而不采用標準器件,這些往往造成未來升級的麻煩.)

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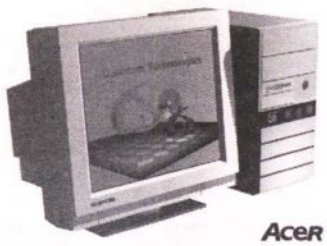

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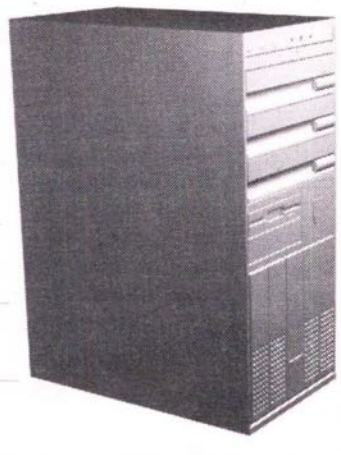

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Printed in Canada ISSN 1188-9462
Canada Post Canadian Publications Mail Sales Product Agreement No. 170 437
Postage Paid at Vancouver B.C.

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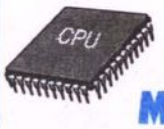

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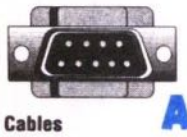

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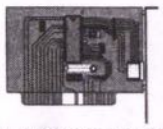

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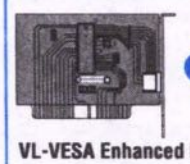

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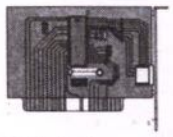

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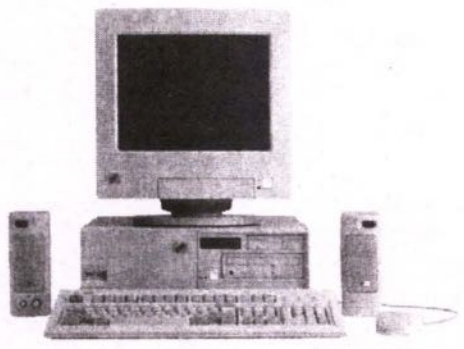

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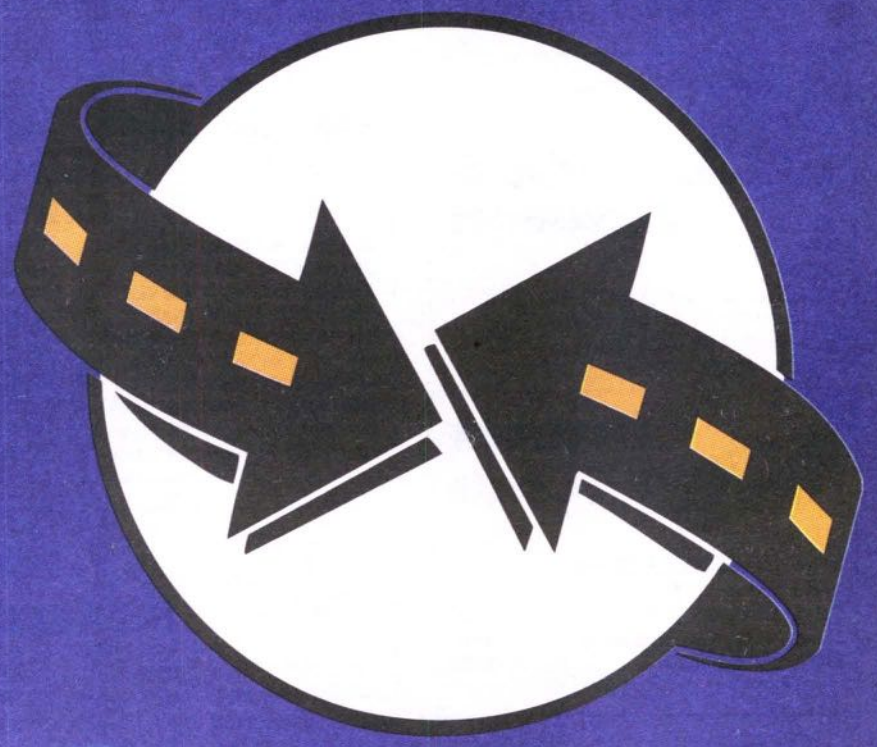

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